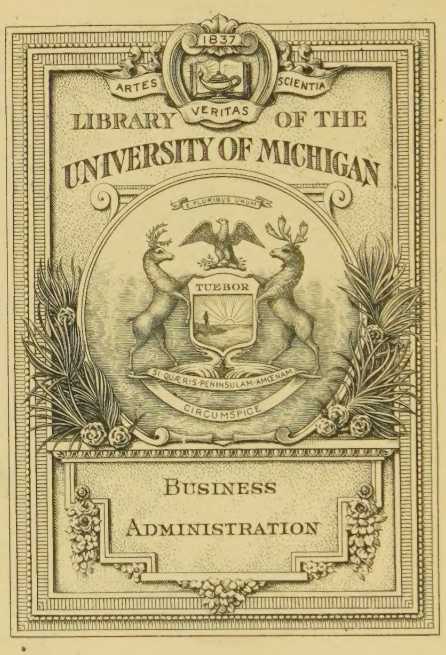
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ECONOMICS FOR THE ACCOUNTANT

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ECONOMICS FOR THE ACCOUNTANT

BY

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PREFACE

In these days any text-book in the social sciences or on the principles of business needs an apology. The student with equipment who has the time and opportunity to attempt to contribute to his science should hesitate before burdening the press with another text. I paused, therefore, before adding another text on the subject of economics, but after much deliberation decided that there was a definite need for a specialized analysis of economic theory for the accountant.

The economist and the accountant deal with substantially the same facts, even though they have different perspectives and somewhat different purposes. The economist is usually a dispassionate philosopher who looks on man's economic activities for the purpose of studying and explaining them. The accountant is working in the midst of business organization and is gathering and classifying facts for his employer. If he would do his work intelligently, he must have some understanding of the economic system in which his employer is functioning. There are many problems of interest to the economist that have only an indirect relation to the accountant's work. For this reason the ordinary text-books on economic theory include lengthy discussions on many phases of economics in which the accountant is not interested and give insufficient treatment to what he would consider more fundamental problems. It might be supposed that some of the more "practical" economic texts, such as are used in the business schools, might give the accountant what he needs. These so-called practical texts, however, usually collect

and schematize certain useful facts that are mere commonplaces to the practical accountant. Moreover, it will soon be discovered that it is the most abstract and subtle economic reasoning that underlies the principles of accounting.

When this work was first being planned, it was suggested to me that there is need of an exposition of accounting for the economist. This book should also be of use to the economist who is interested in the theory of accounting. Moreover, any economist who gives consistent thought to accounting will find much of purely theoretical economic interest in the subject. He will find that he must be more careful in defining capital, interest, and profit and that he will have to make some important distinctions between the different kinds of cost. I feel that through my contact with accounting principles I have been able to present certain more or less important contributions to economic theory.

The student who expects to get the most out of this book should know something about accounting, and if he knows anything about accounting, he will necessarily have some grasp of the fundamentals of economics. In short, this book was not written primarily for the elementary accounting student although, in the absence of any other text of this kind, it could be used even by students of elementary accounting, if supplemented by classroom lectures.

There is one word in regard to the scientific method to be employed in the two studies, and especially in accounting. The economist's first problem is to determine "what is"; a description of "what ought to be" may follow, but it should be predicated on a knowledge of "what is." The economist may use his science for constructing methods of improving the welfare of society,

but he thereupon becomes a reformer or even a propagandist. It is not contended here that an economist should not at times be a reformer or a propagandist, but it is believed that he should be careful to obtain the facts first. The accountant probably needs more warning on this score than the economist. The accountant may work for a producer or for a public body, but he should never change his definitions or adopt a revised set of principles. The concept of "cost" should never be changed so as to serve as a weapon for enforcing good financial policy or for effecting social reform; the accountant's definitions should be carefully thought out and rigorously adhered to. It is no sound argument against the principle involved in the inclusion of interest in cost that the application thereof would tend to inflate cost and allow the producers greater profits than they would otherwise enjoy. The amount of depreciation the accountant should charge should not be affected by the financial condition of the company or by the wishes of its directors. The accountant should tell the truth as he sees it and should be careful not to revise his classifications for some special purpose, no matter how justifiable the particular cause may seem to be.

The problem of interest as a part of cost is so much disputed, and the light that economic theory can throw on the discussion is so considerable, that a special appendix is devoted to the subject. The problem is discussed in Chapter X as well as in other chapters, but an entirely satisfactory discussion of this question was not possible until all the principles outlined in Chapters X and XI were set forth. Before this problem can be understood by the accountant, he must establish firmly certain careful definitions of the entrepreneur, the capitalist, capital, capital goods, cost, interest, and profit. Certain other

disputed items, which might have been discussed in Chapter X, were reserved for Appendix II because of their technical accounting interest and because it was difficult to treat them until all the general principles had been set forth.

KEMPER SIMPSON

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ECONOMICS FOR THE ACCOUNTANT

CHAPTER I

ECONOMICS AND ACCOUNTING

The Development of Accounting.—Since the Civil War business organization has become increasingly complex. Business units have become larger and are not so readily interpreted by simple methods of bookkeeping. Although new fields of industry are constantly being invaded, competition in many lines is becoming keener and keener. The complexity of business organization has been responsible for the replacement of the bookkeeper by the modern auditor, and the keenness of competition, along with other factors, has developed the field of the cost accountant.[1] The World War too, through the necessity of price fixing and taxation (especially the income and excess profits taxes), has made it necessary for all business to give some consideration to the problems of accounting.

Although modern accounting has developed from bookkeeping, the modern accountant must have a

[1] The cost accountant establishes the price below which it would be unprofitable to sell.

much larger equipment than the old-fashioned bookkeeper. As business organizations have grown larger and more complex, the producer has been less able to grasp all the facts of his business and has come to depend upon the accountant more and more for a summarization of details. Furthermore, the accountant has developed from a mere keeper of records (that is, a bookkeeper) into an interpreter of those records. The producer relies on his accountants for all those facts that he needs in determining his business policies. But it must be remembered that the producer is not working alone; he is functioning in a complex economic organization, and it is the accountant's business to understand the economic relations of his employer. If the accountants do not understand the system in which the producer functions, of what use to him will their presentation of facts be? In short, accounting is merely a combination of scientific bookkeeping and economics.[2]

In order to comprehend the differences between the functions and the purposes of the accountant and the economist, it will be necessary to consider the way in which accountancy and economics first attracted the attention of mankind. As early as there was business there was some kind of bookkeeping, but it was not until business became complex that the principles of accounting were formulated and it was not until competition became keen that cost accounting and auditing (as it is understood to-day)

[2] Economics includes corporation finance, taxation, etc., as well as pure economic theory.

began to claim so much attention. Accounting, then, has become a science since the '80s.

The Development of Economics.—Economics, or political economy, has had a respectable position among the sciences ever since the Revolutionary War and its principles have been more or less heeded by governments since the Napoleonic Wars. Political economy descended from two very unlike parents; the finance minister of kings and the academic philosopher. The problems of taxation and money early interested the monarchs of Europe and their ministers of finance. The kings of France thought of the people merely as taxpayers who supplied them with the means for lavish expenditures, but Quesnay warned them that a rich people make a rich country and a rich king. The other parent of political economy was the professor of philosophy, who stopped to consider man in his economic as well as his ethical and political relations. Francis Hutcheson and Adam Smith gave political economy an academic position, which stimulated the keenest scientific minds to give it attention.

Adam Smith's book was called the *Wealth of Nations,* but would probably have been called *Political Economy* had not another book by Sir James Stewart with that title appeared a few years before. To-day, "economics" is probably more common than "political economy," but the older term is significant in that it shows that it was the effect of the state on the economic relations of man and on the wealth of nations that was of particular interest to the economist. Economics in England and in the

United States, to-day, lays less stress than formerly on the state and more on the consumers and laborers as classes. It is a fact of some interest that just before the War a German economist of distinction remarked that there were very few American economists who gave sufficient attention to the state in their studies, and that there were few American *political* economists for that reason. It was characteristic of German economics and of German government that the importance of the state was always emphasized. In England and the United States, a policy of *laissez-faire* allowed men to develop economic organizations with the least possible governmental interference. The protectionism, government ownership, and taxation of Germany were consistent with German political economy, whereas English free trade, private ownership, and taxation cannot be dissociated from English economics.[3]

The Economist's Point of View.—Although the economists of to-day may be less interested in the state than were the early political economists, they have always retained their interest in society. It is society as consumer and society as producer that the economist considers. No individual or no one group of individuals should occupy the economist's entire attention or receive special treatment. He may work for one or the other of these groups, for example, laborers, entrepreneurs, etc.,[4] but, then, he becomes

[3] Protectionism in the United States is explained by the necessity of helping certain industries to get on their feet, whereas German protectionism was a governmental policy designed to make Germany a self-sufficing political unit.

[4] See Chapter III, page 26.

a propagandist and is in danger of losing his impartial scientific attitude. The economist describes and attempts to show causal relations, but he should be careful whenever he introduces ethics and talks of what "ought to be" rather than of what "is." It is, to say the least, practical to determine what "is" before deciding what "ought be be."

The Accountant's Point of View.—The accountant is the producer's (entrepreneur's) bookkeeper, grown philosopher.[5] Even the public accountant does most of his work for the entrepreneur. He analyzes the activities of the producer's business, and only incidentally considers those of society as a whole. While he sets up his accounts, he always has in mind that they are being prepared for his employer: he is concerned with the laborers merely because they receive wages, which he must include in his employer's costs or expenses. The consumers, for whom it will be shown all production is carried on, claim the accountant's attention only because they pay the producer prices, which constitute the "Sales" of the accountant's Profit and Loss Statement. The accountant in rare circumstances may be called upon to make "special examinations" for the benefit of consumers, as in a public-utility case. The accountant, then, usually studies the individual business, whereas the economist studies all businesses and their inter-relations.

It has often been pointed out that accounting is merely a science of classification, analogous to anatomy. Economics not only describes and classi-

[5] See Chapter III.

fies but attempts to give ultimate explanations. A scientific explanation, however, is, in one sense, merely a description of cause and effect. It may be that the economist should have worked out the principles on which accounting classifications should be based, but economists have been so busy studying society and businesses collectively that they have neglected to consider the science of business from the individual producer's point of view. So the accountant has had to work out principles and set up theories behind his classifications, because all serviceable classifications are built on principles and even theories. But inasmuch as the two professions are dealing with the same phenomena, and since both the accountants and the economists are primarily describing facts, their points of view may be different, but, in the last analysis, they should be reconcilable.

Even though the accountant works for some particular producer, that producer functions in a complicated economic system, about which the accountant must have some knowledge. The producer has contacts with the market, in which there are other producers and consumers; he also has contacts with capitalists and with laborers. The accountant must know something of the intricate system in which his employer functions. He cannot build a wall around the business for which he is making classifications; he cannot tell his employer "so much you must add to cost before arriving at selling price" and "in this way you should value your assets" if the market refuses to consider the

employer's or the accountant's ideas and desires in the matter. That accountant is most successful who is aware of the place of his house in the greater economic organization. It will be shown, for example, that his house seeks through *price* to get income from the larger economy and that it draws upon that economy for the goods and services for which it meets *costs;* the difference is *profit.* Strangely enough, however, *costs* are not always so easily defined as they might seem to be; as a result, with the varying definitions of costs, there are varying definitions of profit. The accountant's definition of cost is not always identical with that of the economist, and likewise their definitions of profit will differ. It is evident that some reconciliation is necessary, but a rather careful scrutiny of both economic and accounting categories must precede the statement of this reconciliation. Moreover, the economist does well to consider the accountant's problems and findings. The accountant is working at the heart of economic realities and he sees facts and truths that the economist may be too much in the clouds to recognize. Too many economists maintain their perspective at such a height that they fail to see the homely truths that are apparent to the burrowing accountant. This book attempts to establish between them contacts that should be mutually beneficial.

CHAPTER II

THE ACCOUNTANT'S PROBLEMS

The accountant must be able to obtain from the records of a company data that will answer three principal questions: (1) What were the sales or income and the expenses or outgo of the business in any particular period? (2) What were the specific costs of the different products handled or produced? and (3) How much capital was invested in the business and how can the present worth of the business be estimated? The Profit and Loss account, the Cost Statement, and the Balance Sheet are constructed by the accountant in order to answer these questions. These three statements can be used to answer questions other than those suggested and some of the additional questions, which are significant, will be treated in other places in this book.

The Balance Sheet.—The Balance Sheet is supposed by many accountants to give merely an accurate financial picture of the business at a particular time, but this belief is due to a misconception of the possibilities of determining such an accurate statement. It will be shown that the Balance Sheet should contain the original cost of the assets not their market valuation; but it is a question whether a statement of this kind could be used to give the stockholders or the creditors any idea of the market

value of the assets at the time the Balance Sheet is being used. (See Chapter XI.)

For whom is the Balance Sheet made? Obviously for those who own the business. To the common stockholders (or, as will be shown later, the entrepreneur), who own the business, the accountant is responsible; his statements are made for them. On the one side (according to American custom, the left side), the different assets are enumerated and some monetary evaluation is set beside each; legally these assets belong to the common stockholders. On the right side, the stockholders' obligations to the banks and to the bondholders (or other creditors) are first shown and underneath these liabilities are included the Common Stock and Surplus, which represents the excess of assets over liabilities, and which belong to the common stockholders. The form of Balance Sheet recommended for the use of manufacturers by the Federal Reserve Board is presented on pages 10 and 11.

This Balance Sheet is supposed to serve a number of purposes. First, it should give the accountant a record of the amount of capital invested in the business; as a basis for an interest charge or for measuring the return earned, the amount of capital invested represents a very important figure. The Balance Sheet will give the amount of capital invested, if assets are shown at original cost. Second, it is commonly used by the stockholders, directors, and managers to obtain an estimate of the financial condition of their business at any time. Third, it furnishes them with a statement for the bank from which

Form of Balance Sheet Recommended

ASSETS

Cash:		
1*a*. Cash on hand—currency and coin	.....	
1*b*. Cash in bank	.....	
		.....
Notes and accounts receivable:		
3. Notes receivable of customers on hand (not past due)	.....	
5. Notes receivable discounted or sold with indorsement or guaranty	.....	
7. Accounts receivable, customers (not past due)	.....	
9. Notes receivable, customers, past due (cash value, $)	.....	
11. Accounts receivable, customers, past due (cash value $,....)	.....	
Less:		
13. Provisions for bad debts		
15. Provisions for discounts, freights, allowances, etc		
	.....	
		.....
Inventories:		
17. Raw material on hand	.....	
19. Goods in process	.....	
21. Uncompleted contracts		
Less payments on account thereof.		
	.....	
23. Finished goods on hand	.....	
		.....
Other quick assets (describe fully):		
.....	.....	
.....	.....	
		.....
Total quick assets (excluding all investments)	.....	.....
Securities:		
25. Securities readily marketable and salable without impairing the business	.....	
27. Notes given by officers, stockholders, or employees	.....	
29. Accounts due from officers, stockholders, or employees	.....	
		.....
Total current assets	.....	.....
Fixed assets:		
31. Land used for plant	.....	
33. Buildings used for plant	.....	
35. Machinery	.....	
37. Tools and plant equipment	.....	
39. Patterns and drawings	.....	
41. Office furniture and fixtures	.....	
43. Other fixed assets, if any (describe fully)	.....	
.....	.....	
	.....	
Less:		
45. Reserves for depreciation	.....	
		.....
Total fixed assets	.....	
Deferred charges:		
47. Prepaid expenses, interest, insurance, taxes, etc.	.....	.....
Other assets (49)	.....	.....
Total assets	.....	.....

BY THE FEDERAL RESERVE BOARD

LIABILITIES

Bills, notes, and accounts payable:
Unsecured bills and notes:
2. Acceptances made for merchandise or raw material purchased.....
4. Notes given for merchandise or raw material purchased.....
6. Notes given to banks for money borrowed..
8. Notes sold through brokers.....
10. Notes given for machinery, additions to plant, etc.....
12. Notes due to stockholders, officers, or employees.....

Unsecured accounts:
14. Accounts payable for purchase (not yet due).....
16. Accounts payable for purchases (past due).
18. Accounts payable to stockholders, officers, or employees.....

Secured liabilities:
20a. Notes receivable discounted or sold with indorsement or guaranty (contra).....
20b. Customers' accounts discounted or assigned (contra).....
20c. Obligations secured by liens on inventories.....
20d. Obligations secured by securities deposited as collateral.....

22. Accrued liabilities (interest, taxes, wages, etc.).....
Other current liabilities (describe fully):
.....
.....

Total current liabilities.....
Fixed liabilities:
24. Mortgage on plant (due date.....).....
26. Mortgage on other real estate (due date.....)
28. Chattel mortgage on machinery or equipment (due date.....).....
30. Bonded debt (due date.....).....

32. Other fixed liabilities (describe fully):
.....
.....

Total liabilities.....
Net worth:
34. If a corporation:
(a) Preferred stock (less stock in treasury).
(b) Common stock (less stock in treasury).
(c) Surplus and undivided profits.....
Less:
(d) Book value of good will.
(e) Deficit.....

36. If an individual or partnership:
(a) Capital.....
(b) Undistributed profits or deficit.....

Total.....

they may desire to secure credit. This third purpose explains the arrangement of the assets: the fluid assets, those that can be easily liquidated in case of emergency, are shown first. Probably the greatest theoretical difficulty presented by the Balance Sheet is the principle of evaluation of the assets. Should they always be valued at their original cost, or should they be revalued with an increase in their market value due to an outside demand, increased quantity of money, or greater productivity? These questions, which are really economic rather than accounting questions, can only be answered by accountants who have a clear understanding of the meaning of economic categories. (See Chapter XI).

The Profit and Loss Account.—If the accountant needed to find the profit or loss of the stockholders realized in a period, it might be supposed that he could compare the Balance Sheet for the beginning of the period with the Balance Sheet for the end of the period.[1] There are certain practical difficulties involved in arriving at profit in this way: as a matter of fact, the second Balance Sheet is ordinarily derived from the first after the profit during the period has been determined and added to the surplus. Unless assets are revalued, and it will be shown that this would be bad accounting, the two Balance Sheets would only differ by the amount of the profit or loss. Furthermore, even if revaluation were allowed, the accountant would find it necessary

[1] This profit would not be pure economic profit but a combination of profit and interest on the capital invested by the stockholders.

Profit and Loss Account Recommended by the Federal Reserve Board

Comparative statement of profit and loss for three years ending.....19..

	Year ending —		
	19—	19—	19—
Gross sales	$.....	$.....	$.....
Less outward freight, allowances, and returns			
Net sales			
Inventory beginning of year			
Purchases, net			
Loss inventory end of year			
Cost of sales			
Gross profit on sales			
Selling expenses (itemized to correspond with ledger accounts kept)			
Total selling expense			
General expenses (itemized to correspond with ledger accounts kept)			
Total general expense			
Administrative expenses (itemized to correspond with ledger accounts kept)			
Total administrative expense			
Total expenses			
Net profit on sales			
Other income:			
Income from investments			
Interest on notes receivable, etc.			
Gross income			
Deductions from income:			
Interest on bonded debt			
Interest on notes payable			
Total deductions			
Net income—profit and loss			
Add special credits to profit and loss			
Deduct special charges to profit and loss			
Profit and loss for period			
Surplus beginning of period			
Dividends paid			
Surplus ending of period			

to separate profits from the sales of products produced or handled from gains on the sale of assets. The Profit and Loss account on page 13 was recommended by the Federal Reserve Board in the same pamphlet from which the Balance Sheet on pages 10 and 11 was taken.[2]

The Profit and Loss account gives a financial summary of the transactions of a business throughout a definite period. It sets forth the income or sales and the outgo or expenses in order to show the difference, that is, the profit realized. The accountant's principal difficulty lies in determining what to do with the producer's or stockholders', that is, the entrepreneur's, sacrifices, which are not represented by actual expenditures, such as depreciation, rent on land owned, and interest. On the treatment of these much disputed items in accounting economic theory can throw much light (see Chapter X and Appendix I).

The Cost Statement.—In a business in which only one product of one grade and of one size is handled, there is no need for any separate Cost Statement provided the items of expense are analyzed and not thrown together in one lump sum such as is done on the foregoing Profit and Loss account. Although the item "Cost of Sales," as shown, represents a summary of the costs, it is often analyzed on the Profit and Loss account. For a manufacturing busi-

[2] There is one obvious criticism of this Profit and Loss account, which was constructed for a jobbing rather than a manufacturing business: Cost of Sales should include Selling and General and Administrative Expense. The item "Cost of Sales" should have been called Cost of Goods Sold.

ness it could be analyzed about as indicated in the following statement:

COST STATEMENT, JANUARY 1–DECEMBER 31

Quantity of Product Manufactured (pounds, tons, or cases, etc.)	.....	Raw Materials	$.....
		Wages	.....
		Factory Overhead	.....
		Total Factory	$.....
(*Add*) Quantity of Product on hand January 1	.....	(*Add*) Cost of Inventories on hand January 1	.....
		Total	$.....
(*Deduct*) Quantity of Product on hand December 31	.....	(*Deduct*) Cost of Inventories on hand December 31	.....
Quantity of Product Sold	.....	Manufacturing Cost of Goods Sold	$.....
		General and Administrative	.....
		Selling	.....
		Cost of Sales	$.....

From this statement the different costs per unit of product can be obtained by dividing the quantity produced into the various production costs or the quantity sold into the administrative and selling expenses or the cost of sales. Obviously when a number of different products of different sizes and grades are produced or handled, the problems of cost accounting become more difficult. Even if a careful record is kept for the costs of the raw materials go-

ing into each of the different products of the different sizes and grades manufactured, there are many costs that are not so easily allocated. It will be shown in Chapter IX that even with careful records the allocation of the raw-material costs for co-products and joint-products may present a very complicated economic problem. The allocation of labor costs represents another difficulty, particularly if the same laborers work on a number of the different products or on the different sizes and grades of the same products. The most difficult problem, however, is presented by the overhead. A reasonable allocation of light, heat, and power, of rent, or of administrative salaries takes much of the accountant's thought; to the solution of this problem, the economist can add but little. When it comes to the determination of what items should be included in cost, and the reasoning pertinent to the disputed items, however, the economist can add much.

The economist is interested in a speedy and accurate solution of these problems of the accountant. Economically desirable differences in prices for the different commodities of the various sizes and grades can only be determined after accurate costs have been established. Furthermore, economies in production can be best effected by accurate and comprehensive unit costs. The economist talks much of the proper or most economic proportions of labor, capital goods, and land in production. He insists that one of the principal functions of management is the judicious use of these factors. It will be shown that the comparisons of the itemized unit costs of

the different factories, or for the different processes, or for the same factory or process for different months or years enable those responsible to effect the necessary economies in production.

CHAPTER III

CONSUMPTION AND PRODUCTION

The Definition of Economics and Its Subdivisions.—Economics is the social science that deals with man in his efforts to make a living or to satisfy his wants. There are two processes involved: one is concerned with the *satisfaction of man's wants;* the other is concerned with the *efforts of man* in obtaining those things that he desires. The first of these processes is called Consumption; the second is called Production. In the simplest type of economic organization, Crusoe desired food, clothes, and shelter (this is, he desired to consume) and he, therefore, had to exert effort (that is, produce) in order to satisfy his wants. Consumption is both the beginning and the end of economic study: it furnishes the incentive for economic endeavor and it constitutes the ultimate purpose of all economic organization. It is seldom that man produces merely for the love of producing; he produces, or lends others aid in production, ordinarily because he desires to consume and because under no other condition would he be permitted to do so. Economics considers every human being a consumer, whenever he has a desire and obtains (purchases) satisfaction. The consumer procures satisfaction, although what he apparently purchases are "goods or services." A "good" is a physical,

but not necessarily a tangible, thing that gratifies the consumer's desire. A "service" is the result of human effort that takes no purely physical manifestation. Consumption might seem to presuppose a reduction of the amount of matter in existence. When a man eats a peach, he destroys the form of the peach, but the amount of matter in existence is not reduced. Furthermore, much consumption does not even change the form of the thing consumed. The owner of a painting appropriates but he does not destroy or even alter the form of the thing consumed. Furthermore, consumption does not necessitate appropriation. The owner of a painting is not the only one who consumes it, that is, derives satisfaction from it.

Production.—Production logically comprises all the processes that are necessary to give the consumer the goods and services he desires. Production in the economic sense does not mean the actual creation of matter. Man cannot bring matter into being; he can merely change its form. Tables and chairs are made out of wood, which in turn comes from the trees; but the trees grow and are not the creation of man. Production does not consist in changing only the form of goods; it includes also the placing and keeping of goods so as to give the consumer his satisfactions where and when he wants them. Changing the form of goods is called the production of *form utilities,* whereas changing their location and keeping them until they are needed are called the production of *place* and *time utilities.* The economist, therefore, maintains that what he calls place

and time utilities are as important as form utilities. The retailers, the jobbers, the railroads, and the cold storage warehouses are as truly producing agencies as are the farmers and manufacturers, even though they merely store and transport goods and do nothing to change their form.[1]

Some goods that provide the consumer with satisfaction do not occupy very much of the economist's attention. The economist is only interested in those goods for which the consumer is willing to pay a price. Some goods, such as air and sunshine, are called *free goods* because they are not usually limited in amount and, therefore, do not command a price. Goods that are limited in amount and that consumers desire (usually have to buy) are called *economic goods.* Economic goods usually have to be produced, although mere scarcity plus desiredness are sufficient qualifications. The distinction between free goods and economic goods is not always well defined. Sea shells, wild mushrooms, and blackberries may be free goods for persons in certain districts, and may be obtained through the expenditure of only personal labor; but for consumers

[1] The accountant's conception of production is often narrow and confined to the direct creation of form utilities. The workers in a factory are sometimes called "productive laborers" whereas the members of the office force are spoken of as "non-productive laborers." Without the clerical force the creation of even form utilities would be practically impossible; thus, the economist makes no such distinction. Furthermore, the accountant does not consider the selling expense as a part of the "cost of production"; but the economist insists that selling, which represents the arrangement for the creation of place and probably time utilities, is as productive as the factory laborer's direct work on the product. Thus, clerical work, selling, jobbing, and transportation are as much production as farming or the direct creation of form utilities.

in the heart of a great city they would be economic goods. Many economic goods that embody no form utilities but only place and time utilities may have been free goods in their original habitat.

Some economic goods are produced that do not in themselves gratify the consumer's wants. A machine for making shoes is such a good. It fills the need of the shoe manufacturer, as producer, but not as consumer. The shoes made by this machine would gratify the consumer's wants directly and, for that reason, are called *consumption goods.* The machine, which is merely used in the production of another good, is termed a *production good.* It will be shown later that production goods are usually called capital goods.

It has been explained that practically every economic good has to be produced; either its form has to be changed or it has to be transported where, or kept until, it is needed. The farm, the mine, the railroad, the steamship, the warehouse, the dealer's shelves, all are scenes of production. Economics divides the agents or factors of production in four classes: *laborers, owners of land and capital goods, capitalists,* and *entrepreneurs.*[2] An analysis of these factors of production and of the services they perform is absolutely necessary for an understanding of our economic system.

Labor.—Production requires, first of all, human effort, both mental and physical. Practically all human effort, whether mental or physical, is classed

[2] This classification is somewhat different from those usually given in the texts, but its value will soon be evident.

as labor. Economics puts the farm laborer, the bricklayer, the brakeman, the salesman, and the mining engineer in the same category: they are all laborers, and their remunerations are called wages.

In the earliest stages of civilization the family could produce practically all the things it needed. Probably the most fundamental distinction between such a simple, Crusoe system and our complicated economic organization is to be found in the greater division of labor that prevails to-day. In the modern factory system of production nearly every laborer specializes in one relatively simple process. The worker in a modern shoe factory does not make an entire shoe: he completes only one part of it and then hands it over to another worker who adds something more. This *division of labor* and the resulting *specialization of function* have enabled the same number of men to produce a larger quantity of goods in the same time.

Land.—But human efforts, alone, will not avail in production; nature must do her part. Man cannot even exist without the air and sunshine, but indispensable as they are, they are free and, therefore, are not classed independently as economic factors of production. Only those factors of production are considered economic that are so limited that they must be paid for. Although producers do not have to pay for air and sunshine, they usually have to secure a plot of ground or the temporary right to stay on a plot of ground before they can produce, and with the ground goes the indispensable air and sunshine. All these natural agents are classed in the one

category, land; the renumeration, which producers give to the owners of land for its use, is the most important kind of rent.

Capital Goods.—It might appear that nature, controlled directly by human efforts, would supply all of man's desires. In a sense, this is true, but nature is formidable and man's body is weak. His brain has enabled him to contrive tools with which to produce the form, place, and time utilities necessary for his satisfactions. Thus, when he wishes to dig into the soil, he does not go to it directly with his hands, but fashions a spade, and before he attempts to remove boulders, he obtains dynamite. It will be remembered that such things as spades and dynamite, when used by producers for making consumption goods, are called production goods. When used in production, they are called capital goods. Capital goods, then, are all the goods and instruments used by the producer in the productive process. The flour miller's wheat and sacks, as well as his machinery, are his capital goods.

Before a producer can produce on any considerable scale, he must obtain the capital goods necessary for his production. If he needs a building and machinery and borrows them from those who own them he pays rent or royalty for their use just as he does when he needs and leases land. For this reason, the business man seldom sees any distinction between capital goods and land. As a matter of fact, the most significant distinction between them lies in the fact that capital goods are commonly produced by man's efforts, whereas land is not. Furthermore,

the stock of capital goods can be increased but the amount of land cannot. Land would be a free good even to-day were it not for the physical limitations of space and time. When land is improved, it represents a combination of land and capital goods.

Capital.—As a matter of fact, however, capital goods are not usually rented; the producer must purchase them. This is often just as true of land. He purchases them with what is called capital, which is expressed in monetary terms. Producers sometimes consider their "capital" as the aggregate of their capital goods, and sometimes as the value of this aggregate. They express these capital goods in monetary terms because in no other way could they add together such unlike things as machinery, raw materials, buildings, and land. Such conceptions of capital might lead to the belief that it is directly productive. The best way to define capital is by genetic definition, that is, to tell how it is created.

When those who help to produce receive recompense, they are commonly rewarded in units of the medium of exchange, that is, dollars and cents. This money has no value in itself except in so far as it represents a claim on desirable goods or service. If the claimants in distribution can forego the pleasure of spending their money, they save it and amass what is called capital. This capital is not necessarily money, that is pieces of gold; it is merely a claim on goods, but it is always expressed in terms of money because, as has been explained, money is the only common denominator for all goods and because money always represents a claim on goods. Capital,

then, from the point of view of its owners represents accumulated and *postponed claims on consumption goods, expressed in terms of money.* When it is transferred from its owners to producers, it becomes productive capital and its principal use is for the purchase of capital goods. Its owners are only willing to forego their claims on consumption goods and transfer them to producers, if they have reason to believe that these claims will be returned to them in the future and that they will receive interest. Interest, then, is the payment made to the capitalist for the use of capital.

The producer takes this capital, or these postponed claims on goods, and obtains capital goods or land therewith. (The other use of capital, namely for the payment of wages, interest, rent, and profit, will be explained later.) From the producer's point of view the capital is thereby dissipated by being given to the manufacturers or sellers of the capital goods, but from the point of view of the owners of capital, it remains intact. Their claims have now become contingent claims on definite units of capital goods, which legally, however, are in the possession of the producer. The producer still must maintain the concept of capital, as it forms the basis on which he pays interest. Capital, then, is an aggregate of postponed claims to consumption goods and is the basis of interest payments, whereas, capital goods are the physical instruments used in production.[3]

Now, as already stated, capital must not be con-

[3] See Chapter XI for the full explanation of capital and capital goods.

fused with money, although it is always expressed in monetary units, and although like money, it represents a claim on goods. If all the tools, machinery, land, raw materials, etc. were expressed in money value and added together, they would amount to very much more than the total quantity of the medium of exchange existing at that time, even though it included coins, bank notes, drafts, and checks. Capital is not synonomous with money: the total claims of those who forego consumption can be expressed in monetary units but they are much greater than the quantity of the medium of exchange in existence.[4] Bonds and stocks may, and usually do, represent capital but they are not money, that is they do not circulate as media of exchange and are not legal tender.[5]

The Entrepreneur.—It would appear that human efforts, the gifts of nature, and the instruments fashioned by man are all that are necessary in production. In the modern economic organization of society, however, there is another factor, the entrepreneur. The entrepreneur is the producer about whom so much has been already said. He is the man (or group of men) in a business organization *who controls its policies because he has legal title to its capital goods and its product.* He is not necessarily the capitalist, for he may borrow all the capital he uses. If he does invest some or all of the capital, he is an entrepreneur-capitalist. In a private business

[4] See Chapter XI for the full explanation of capital and capital goods.

[5] See Chapter VII.

the entrepreneur is the "boss"; in a partnership, the partners; in a corporation, the common stockholders. It might seem as if the president of a corporation corresponded to the "boss" in a private firm; but a little reflection will show that *the stockholders of a corporation are legally the "boss," because they own the business, the capital goods, and product, and because they control the policy of the corporation.* The president is merely a salaried laborer, hired by the stockholders.

It has been stated that in the modern corporation, the common stockholders constitute the entrepreneur. As the great bulk of the businesses in the United States to-day are corporations, it seems necessary to consider somewhat in detail this form of business organization. The corporate form of organization has been developed to obviate certain difficulties of the private firm and partnership. A corporate charter enables a business organization to continue automatically after the death of its owners, whereas a partnership has to be dissolved and reorganized if one of the partners dies. A corporation is owned by a number of stockholders, who holds stocks or shares, usually valued at $100 each, as evidence of ownership. A corporation can obtain capital by selling these stocks to those who desire to become partners, but the stockholders are not personally liable for the debts of each other or for the debts of the corporation. This limited liability of the stockholders makes the corporation a far more desirable form of business organization than the partnership, where the

partners are personally liable for the debts of the business.

Every holder of a common stock has a vote and the holders of the majority of the common stocks have control of the corporation. The common stockholders usually obtain their common stock by purchase; thus, they supply the corporation with capital when they become the entrepreneur. If a capitalist purchases 1000 shares at $100 each, he supplies the corporation with $100,000 capital. For this reason, the common stockholders are usually capitalists as well as entrepreneur, but if they supplied the corporation with no capital when they received their common stocks, they have the entrepreneurial but not the capitalistic function. The entrepreneurial function, then, consists in having the majority vote in, or control of, the corporation. Furthermore, the stockholders, even if they do not supply any capital, legally own the business, that is the capital goods and the product. If the business earns more than enough to pay expenses, the stockholders may receive a dividend; if nothing is earned, however, nothing can be paid. The stockholder, therefore, takes his chances.

If a corporation desires to obtain capital without selling common stock and, thereby, increasing the number of partners, it can borrow from the banks on notes or loans or it can sell bonds or preferred stock. But on all such borrowings it must pay a fixed rate of interest. The bondholders supply capital, but they have no vote; in lieu of this, they demand an assured interest return. If the bonds

issued are mortgage bonds, the bondholders have a right to foreclose, that is, take over and sell the specific capital goods mortgaged, in the event that their interest is not paid. The preferred stockholders in most modern companies are also supposed to receive a fixed return, called a dividend, but really interest. Although the preferred stockholders have no mortgage, and cannot sell a specified part of the company's property if their interest is not paid, their interest is usually cumulative, that is, if the 7 per cent due them this year is not paid, they are entitled to receive 14 per cent next year, before any dividends on the common stock can be declared. Furthermore, although the common stockholders have the vote and the preferred stockholders have no voice in the management as long as they receive their specified return, the preferred stockholders are sometimes given the voting control of the corporation if their interest or preferred dividend is not paid. This contingent right to vote is not an evidence of partnership, but is merely a club over the corporation and serves much the same purpose that the bondholder's right to foreclose under a mortgage does.

The bondholders and preferred stockholders are pure capitalists and have none of the entrepreneur's function. The sinking-fund provisions, which are intended to wipe out the bonds and preferred stocks year by year until they are all canceled, show that these two classes are not partners but creditors. Thus, although the common stockholders are entrepreneur and may be capitalists as

well, the preferred stockholders and the bondholders are capitalist but not entrepreneur.

In the days when most producing units were small unincorporated businesses and partnerships, the function of the entrepreneur was definitely vested in one or two men, but in these days of incorporation the problem is more complicated; the stockholders legally own the product and the capital goods, it is true, but in most cases only a small group of them control the policy of the company. Furthermore, the voting trust has complicated matters still further; in a voting trust the stockholders delegate their voting rights to the voting trustees and thereby relinquish their control for a temporary period, at least. Generally speaking, the function of the entrepreneur is divided between the controlling stockholders of a corporation although all of the stockholders have some of the entrepreneurial function in that they are joint owners of the capital goods and the product. A more complete exposition of the entrepreneur and his functions will be set forth in Chapter XII.

The accountant often confuses the entrepreneur and the capitalist. Although the entrepreneur holds title to the capital goods, he does not always supply the capital, and in so far as he does so, he is a capitalist and not an entrepreneur. It should be emphasized that the capitalist owns the capital, whereas the entrepreneur has legal title to the capital goods. The fact that the two functions are so often embodied in one man is no reason for confusing them. The promoter, *who may or may not be the entrepreneur,* usually secures, or has someone else to secure, the

land and capital and then brings the capital goods and the labor together; but the entrepreneur is not necessarily a capitalist, a landowner, or a laborer, and yet he may be all three. If he gives his time and actually works in his business after it has been organized, he is a laborer and usually receives a salary for his efforts. But the entrepreneur may have no active connections with his business, as for example, the majority of the common stockholders of modern corporations, who merely sign a proxy once or twice a year. In that case, then, *his only functions would be the control of the policy through the ownership of the capital goods and the product.*

The Division of Labor, Distribution, and Exchange.—In the simplest kind of economic system, each man or each family produced independently all the things that were needed. The consumer directly consumed the goods that he, himself, produced. In our modern complicated economic organization, few persons produce, or help to produce, more than one kind of thing. Indeed, most laborers are expected to complete only one small part of a complicated manufacturing process. It has already been explained that such a division of labor makes possible a great increase in product, but it obviously complicates the division of the product. When Robinson Crusoe worked alone, all that he produced was his; but when Friday helped him a division of the product became necessary. The problem became even more difficult when the product had to be divided between the laborers; the owners of the land or capital goods, who rented them to the entre-

preneur; the capitalist, who supplied the capital, and the entrepreneur, himself. Obviously, these four factors of production would have found it inconvenient to receive remuneration for their help in the commodities they were cöoperating to produce. Some farm laborers are paid in kind, but ordinarily laborers are paid money wages; owners of land and capital goods are paid money rents or royalties; capitalists are paid money interest; and entrepreneurs retain money profits. This money is surrendered to the entrepreneur by the consumers and is called by him, "Sales," but by them prices. Price, therefore, is the sum of wages, rent, interest, and profit. The study of the division of price is called "distribution," and the study of the medium of exchange, money, is called "exchange." The four subdivisions of economic theory, then, are: consumption, production, distribution, and exchange.

Another Definition of Economics.—Economics is sometimes defined as "the science that treats of phenomena from the standpoint of price."[6] This definition can be easily reconciled with the first one given on page 18 when it is realized that price is what the consumer must give in order to obtain the satisfaction of his desires (consumption); it is what the producer receives for the efforts expended (production); it is the return divided between the four factors of production (distribution); it is expressed in terms of money, and, as will be shown in Chapter VII, bears a close relation thereto (exchange). The accountant, too, is interested in price, or "Sales,"

[6] H. J. Davenport, *Economics of Enterprise*, page 25.

that is, the sum total of the prices received. He analyzes price somewhat differently; he considers price the sum of cost and profit, cost being what the entrepreneur pays, and profit what he receives. Although cost is analyzed both on the Profit and Loss account and in the Cost Statement, the classification of the accountant differs from that of the economist. It will be shown that the fundamental reason for this difference lies in difference in the economic and the accounting conceptions of cost.[7]

[7] See Chapter VIII.

CHAPTER IV

DISTRIBUTION

Distribution and Marketing.—Distribution is the branch of economics that deals with the returns received by those who aid in production. The laborers, the landowners, the capitalists, and the entrepreneurs are the claimants in distribution, and the explanation of their shares, wages, rent, interest, and profit, is one of the principal tasks of the economist. Distribution should not be confused with marketing, which considers the movement of products from the producer to the consumer. It might seem that when laborers are paid in kind, as on a farm, the two problems of distribution and marketing merge into one. If the laborer receives commodities in payment for his services and consumes them, the process of distribution has become the marketing process. However, it is doubtful whether many laborers to-day could satisfy all their wants through the consumption of the commodities they helped to produce. A farm laborer might receive all the food he needed, but he would require many things, other than food, and for them he would be forced to give a part of the food commodities he received as wages. Marketing would consider the ultimate destination of the food commodities the

farm laborer received as wages, but distribution would merely treat them as a share of the total production and would not consider them after they had passed out of the laborer's hands. Inasmuch as most laborers, as well as the other factors of production, receive payment in money and not in kind, for the obvious reasons that have been suggested on page 32 and will be elaborated in Chapter VI, distribution is the study of the division into wages, rent, interest, and profit of the money prices paid by consumers to entrepreneurs, and marketing is merely concerned with the movement of *goods* from the producer through the middleman to the consumer. Whereas farming, mining, and manufacturing are largely concerned with the creation of form utilities, marketing is more definitely concerned with the creation of place and time utilities, but marketing is, nevertheless, production and not distribution. Whether a commodity is moving from the producer to the consumer with the least expenditure of effort and whether there are so many unnecessary middlemen that the producer's price is loaded with too many margins before the commodity finally reaches the consumer are the problems attacked by a marketing study.

The problems of distribution are of a very different kind. Why do the different factors in production receive their shares in distribution? Why are laborers paid wages? Why are rent and interest paid? What services do entrepreneurs perform in order to earn their profit? Why do wages rise while rents or interest may be falling? What explains the

total wages paid to laborers in an industry? What determines the total amount of the shares paid the other factors, the owners of land and capital goods, the capitalists, the entrepreneurs? How are the differences in wages, rents, interest, and profits to be explained? These are some of the most important questions that any theory of distribution should attempt to answer.

The Productivity Theory of Distribution.—If there is any one principle that is more fundamental than any other in the theories of distribution, as set forth by most economists, it is the "productivity" explanation of the shares in distribution. On the third page of Professor J. B. Clark's *Distribution of Wealth,* he makes the following statement: ". . . where natural laws have their way, the share of income that attaches to any productive function is gauged by the actual product of it. In other words, free competition tends to give to labor what it creates, to capitalists what capital creates, and to entrepreneurs what the coördinating function creates." Many economists assume the justice of this principle, which other economists, including the Socialists, challenge. The ethics of this assumption cannot be discussed in this book, but the failure to treat it constitutes no reason for the belief that it cannot be defended.

The productivity theory of distribution, then, maintains that in a truly competitive system laborers *tend* to receive in wages the equivalent of that specific part of the product that their services create, that the owners and renters of land or capital goods

tend to receive in rents or royalties what their land or capital goods produce, that the capitalists tend to get in interest the productivity of the capital goods purchased with their capital, and that the entrepreneur gets approximately in profits what he adds to the product. In concrete terms, if a laborer, working on a piece of land with no instrument (capital goods), produces 20 units of product, the 20 units would be the result of the land's productivity and of the laborer's productivity, and if it were divided between the landowner and the laborer, it might be said to represent wages and rent, equal to the product of the laborer and the land. If a machine were employed, the productivity might be increased to 30 units; then, 10 units would be imputable to the machine, and, according to the productivity theory, approximately 10 units of product would represent either rent or royalty paid for the use of the machine, if it were borrowed, or interest on the capital expended, if the machine were bought. Later, if an entrepreneur were assumed to increase the productivity of the combination of labor, land, and capital goods to 40 units of product by some adroit innovation, the profit he would tend to get would be the 10 units he may be said to have created.

Although, if certain assumptions are made, the productivity theory seems most reasonable and, to the author, not unethical, it is a difficult theory to prove or even demonstrate.[1] Professor John B.

[1] With regard to the assumptions referred to, if the laborer is to get what he produces, his bargaining power must equal that of his employer. This is also true of the bargaining powers of the other factors. The disparities in the laborer's and entrepreneur's bargain-

Clark and some of his pupils have made the most sustained attempt to demonstrate and prove the principle that free competition tends to give each factor what it produces, and the logic he uses can be found in his *Distribution of Wealth.*[2] One corollary of the productivity theory, which is somewhat easier to demonstrate, is the principle that laborers of different efficiencies tend to get wages graded according to their relative productivities.

Wages.—Wages and salaries constitute the share of labor. Before production begins they are fixed by contract between labor and the entrepreneur or

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ing powers have resulted in the collective bargaining of the trade unions, which at times may get for the laborers more than they produce. The price agreements of entrepreneurs and their monopolistic control of industry have often secured greater profits for them than their productivities could have warranted. Thus, in many ways, competition is not free and the factors do not even tend to get their productivities. This is all explained in detail in Chapter XIII.

[2] The productivity theorist argues that a producer will continue to obtain laborers and capital for capital goods, including land, until he reaches a point where the last unit of capital goods and the last laborer will just pay for themselves, that is, this last unit of capital goods and the last laborer will just add enough to the product to cover the interest charge and the wage that must be paid. Then if he is a wise producer, he will hire no more laborers and buy no more capital goods. This last laborer is called the marginal laborer, and the last unit of capital goods is called a marginal unit of capital goods. Since it is assumed for the purpose of this analysis that *all the laborers are of equal efficiency, the marginal laborer will produce as much as the other laborers,* and, furthermore, he will receive a wage equal to his productivity, because he is defined as the laborer who just pays for himself. The productivity theory, then, goes on to show that all laborers cannot be assumed to be equally efficient. Professor Clark's words are as follows: "A skilled worker will, of course, always create more wealth than an unskilled one. . . . A good instrument will also produce more than a poor one. Such a good instrument, however, represents more units of capital than does the poor one; all that we have claimed for competition is a tendency to put the different units of capital where their earnings are equal. . . . In like manner, a laborer of a high grade embodies in himself more units of labor than does an inferior one." *Distribution of Wealth,* page 106.

his agents. Laborers and salaried officers receive fixed amounts for their services except in those cases where bonuses are given, but even then the amounts received do not necessarily depend upon conditions in the market. This is not true of the amounts received by the laborers in a profit-sharing system, which represent a combination of wages and profits.

There are a number of theories that attempt to explain how the wages of labor, as a whole, and how the wages of laborers, as individuals, are determined, but the business man and his accountant have only of late become interested in the wage problem. Naturally the employer has always tried to pay as little as he could, and after he had paid it, his accountant merely put the exact amount in cost and gave it no further consideration.

It would be impractical here to describe at length all the different theories of wages, and yet it would be dogmatic to present and insist upon any one. Although the productivity theory, which has already been described briefly, has had a great effect on the thinking of American economists the cost of living or standard of living theory is often introduced as a qualification. The cost of living theory of wages has been gaining support largely for the reason that free competition, assumed by the productivity theory, does not exist and as a result labor has not always been receiving what it produces.[3] The cost of living theory, or the standard of living theory, might maintain, however, that even if competitive

[3] See Chapter XIII.

conditions actually were as they are pictured by the marginal productivity theory, and even if labor tends to receive what it produces, this share may not be sufficient. If this share does not give laborers a living or a decent wage, it should be increased. Even if the capitalists, the landowners, or the entrepreneurs have to surrender parts of their shares, that is, the results of their productivities, it would be better for them to do so than to have laborers underpaid. This might imply a less rapid growth of capital, but even so it would be preferable to underpaid laborers. Furthermore, laborers with a higher standard of living and with the educational opportunities offered by increased wages would probably become more efficient.

It has been assumed by many economists that wages could never fall below a certain point for the reason that there is a certain minimum necessary for life and that if wages did fall below the minimum of subsistence, the consequent decrease in the supply of labor would automatically raise wages. However, it has come to be realized that wages may fall below a decent minimum without necessarily causing deaths; undervitalization and consequent physical degeneration may affect the labor supply without necessarily diminishing its size. The cost of living theory of wages assumes that every person who plays any part in production should have a living wage. The minimum wage, then, is a necessary part of any economic organization and should be enforced by legislation if it does not come about naturally. Above the minimum of subsistence, wages might be

determined in much the same way as the productivity theory maintains. However, according to the cost of living theory, general increases in prices should be followed by increased wages. Laborers should not be forced to reduce their standards of living because of increases in the price level. This theory, therefore, is often called the standard of living, rather than the cost of living, theory of wages.

Rent.—It is often asked why a man should be allowed to control a piece of land in much the same way that he controls his bodily efforts, and why any other man should have to pay him for the use of it. Land is not created by human efforts and would be considered a free good, like air, were it not limited. Some undesirable pieces of land, undesirable because they are barren or because they are so far removed from the centers of population, are free even to-day. The payment of rent for land is predicated on the principle of private property, which, justifiable or unjustifiable, is at the basis of our present economic organization. In practically every civilization of the world a man has been allowed to hold legal title to a piece of land if he were the first to claim it, and legal title has always implied the right to hold, transfer, sell, rent, or bequeath. Many feel that no individual should have such rights over the gifts of nature unless he be expected to improve them, and the more radical contend that under no conditions should individuals be permitted to own land, which they did not produce and which should be the property of society as a whole. Although the original

owner of a piece of land may have no just claim to it other than priority, all subsequent owners who purchased it with the expenditure of capital probably have a better justification for demanding rent. Such landowners might almost be classed with the capitalists, who saved, inherited, or acquired their capital, because their purchase of the land is no different from the purchase of capital goods. No one would deny that a laborer who invested his savings in land should be entitled to a return.

The productivity theory is used to explain rent as well as wages. One principle that helps to explain the difference in rents is a corollary of the productivity theory and can also be applied to profits. It is sometimes called the differential theory. If marginal land be defined as a piece of land that it just does not pay to cultivate, because it is so poor, the difference between the product that could be raised on this piece of land and on other pieces of land, more fertile, would represent the respective rents for the more fertile pieces of land. This use of the term "marginal," as in marginal land or marginal entrepreneur, must not be confused with the other use of this word. The marginal laborer of the productivity theory was the last laborer the producer could afford to use, and was assumed to be of the same efficiency as his other laborers; the marginal land of the differential theory is the relatively poor land just at the margin of cultivation. All the other pieces of land command rents equal to the excess of their productivity over the marginal land. Thus, if a producer undertook to cultivate

free land from which he could just earn enough to pay interest on the borrowed capital, wages to his laborers, and enough for his own scant subsistence, he would be cultivating marginal land and would be in no position to pay rent. Any land from which the same producer with the same help and instruments could obtain a larger crop would be super-marginal land. For such land he would have to pay rent, and this rent theoretically would be equal to the difference in the product obtained from marginal and super-marginal land.

Interest.—Whereas wages are paid to laborers, and rents to the owners of land and capital goods, *interest is not paid to the entrepreneur,* who has legal title to the capital goods, *but to the capitalist* who allowed the capital to be brought into existence by foregoing claims to consumption goods. Interest on capital is commonly determined upon in advance by the entrepreneur and the capitalist. It usually represents a fixed percentage of the capital loaned. Thus, when the capitalist loans a business capital by buying its bonds, he receives a fixed rate of interest. The return received by the capitalist who lends a corporation capital by buying its stock will be considered on page 120.

The productivity theory maintains that the rate of interest is determined by the productivity of the capital goods purchased with capital. Some economists maintain that the interest rate is far less affected by the productivity of capital than by the psychology of the savers or capitalists. For example, frugal and provident persons would save capital in

order to accumulate a bank account even though they were to receive a rate of interest very much lower than the productivity of the capital goods obtained through the use of their capital. It is often questioned whether the rate of interest has as great an effect on the accumulation of capital as is usually implied in the productivity theory. Certainly the provident would provide for old age no matter how low the interest rate might be. Furthermore, a shiftless person or a nation, suddenly grown extravagant, might not forego present consumption for a promise of future consumption, no matter how great the inducement, that is, the interest rate, might be.

There is another factor that influences the interest rate, namely, the risk the capitalist runs of not being able to obtain his principal. When a capitalist lends his money to a speculative industrial corporation, he demands a higher rate of interest than he would if he were buying a safe railroad bond. The difference in the two rates is sometimes called a premium for risk.[4]

The interest rate is probably determined (1) by the frugality of those who receive incomes and by the premium they demand for postponing present consumption; (2) by the risk they run of not obtaining their future consumption; and (3) by the productivity of the capital goods the producer can obtain with the use of their capital. It is to be hoped that concrete statistical work will be carried on in the future in order to sharpen our conceptions of the factors that determine the rate of interest.

[4] This matter will be discussed again on page 140.

Profit.—The complete discussion of profit will be postponed until Chapter XII, where it will receive more complete treatment than any of the other shares of the claimants of distribution have yet received. Profit, the share of the entrepreneur, is the most important of any of the shares from the accountant's point of view. The entrepreneur has the strategic position in the modern organization of industry, and the accountant is his agent. The entrepreneur theoretically assembles the other factors of production, directs the productive process, collects from the consumers, and pays off the factors of production when they become claimants in distribution. These functions give the entrepreneur his strategic position in industry.

Walker called the entrepreneur the captain of industry, and he was. In those days, he was the individual who controlled industry. But, to-day, we are witnessing the passing of the entrepreneur as a person; his functions are being surrendered to a group of stockholders, the dominant group, and even they, in many cases, are delegating most of their functions to their hired employees. Yet, the entrepreneur's authority still exists; he has the right to control the policy of his corporation because he has the legal title to the capital goods and to the product. Furthermore, in so far as he has anything to do with the placing of labor and capital in such a position that the productivities of labor and of capital goods are increased, he can claim to be the creator of the increased product. It will be shown in Chapter XII that the entrepreneur's only justification for

claiming profit is not risk, as many economists maintain, but productivity, and that if he is not really responsible for the production of what he obtains, he has no economic right to it.

CHAPTER V

THE ECONOMIST'S PROBLEM

The Meaning of "Economics."—In Chapter II the accountant's problems were discussed. Because it was necessary to make some study of the fundamental concepts of economics before the economist's problems could be understood, they have been postponed for this chapter. It has been stated that economics deals with men in their efforts to satisfy their wants. There are, therefore, two fundamental problems involved: men must "consume" in order to satisfy their wants; men must "produce" in order to obtain the desired satisfactions. For Robinson Crusoe there were only two subdivisions of economics: consumption and production. He desired to consume; therefore, he produced. It may be helpful to the student to stop at this point and reconsider why the description of these processes is called "economics." If Crusoe had produced clumsily, he would not have been satisfying his wants "economically." Economics, therefore, considers the method employed and the amount of effort expended by men in the satisfaction of their wants. Furthermore, if Crusoe had eaten too many fish in the evening for his physical comfort, and then, had had none left for breakfast, he would have been consuming "uneconomically." An ideal economic system would imply

the greatest possible satisfaction for society as a whole with the least possible effort.

For Crusoe alone there were no problems of distribution and exchange, but if he and Friday had worked together, they would have had to divide the product between them. It has been shown that this division of the product would have been a very elementary type of distribution. In our modern complex economic organization where a large group of people cöoperate to produce one commodity and where there is an extensive division of labor, the laborers could not be paid "in kind" but must be paid in money. The workers in a shoe factory could not be given shoes, and, then be expected to go out and trade their surplus shoes for the other things they desire. Such a system of barter, it will be shown in Chapter VII, would be uneconomical. Therefore, not only a more complicated distribution but a new subdivision of economics, exchange or the study of money, distinguishes our present industrial organization from the Crusoe system.[1]

Inasmuch as the methods of distribution and exchange affect the success with which laborers, landowners, capitalists, and entrepreneurs satisfy their wants, the economist has always given more attention to these two subdivisions than to production and consumption. If the laborers, who represent probably 95 per cent of the people, are not getting enough for the satisfaction of their wants under the present methods of distribution and exchange, and if a few people, the capitalists, the landowners, and

[1] See Chapter VII.

the entrepreneurs, are receiving far more than they need for the satisfaction of their wants, the economists might be inclined to criticise the present system of distribution as uneconomical. Too large a part of society would be doing the hard work, and too small a part would be getting the necessary satisfaction. However, the economist must consider whether the laborer's desires could be better satisfied under any other organization of society. If the laborers, without the help of the other classes, would only produce that part, or less than that part that they get at present, there might be some reason for saying that the other factors earn their interest, rent, and profit and that laborers deserve no higher wages than they get. This should be recognized as an inference drawn from the productivity theory of wages.

In the past so much attention has been given by economists to the question whether our present system of distribution and exchange allows the greatest number of people the greatest amount of satisfaction, that they have sometimes neglected the problems of consumption and production. Consumption, as will be shown in Chapter VI, is largely a psychological problem, but some of the English and the Austrian economists have stimulated much interest in it of late years. The problems of production can be attacked with more effectiveness by the accountant, the engineer, and the efficiency expert than by the economist. When the economist attempts to formulate principles of production, he is handicapped by the lack of data. His pronouncements on the effi-

ciency of large-scale production [2] and on the effect of machinery, for example, should have been based on inductive studies and not on deductive logic. The accountant and the technical expert is probably in a better position than the economist to solve many of these problems.

The Study of Prices.—It was explained in Chapter III that economics is sometimes defined as "the science that treats phenomena from the standpoint of price." It has also been pointed out that the study of prices enables the economist to measure the effectiveness with which society's wants are being satisfied. The consumer must pay a price for practically everything he consumes. The extent to which the consumer's wants are satisfied by the prices he pays is as much a psychological as an economic problem, but the economist has a more direct interest in it and, therefore, cannot neglect it.[3] This price is paid to the producer and divided by him between the factors of production, who are also claimants in distribution. The division of price by the producer between the different factors of production has probably received more attention from economists than any other economic problem. Inasmuch as these factors of production are only able to become consumers through the shares they receive in distribution, the economic well-being of consumers depends upon the fairness of distribution. If wealth were distributed so as to give but little satisfaction to those who produced much and too much satisfaction

[2] See page 157.
[3] See Chapter VI.

to those who produced little, such a system of distribution would be uneconomic, not merely because it would be unfair, but also because it would probably not encourage and stimulate productivity.

It will be shown that the economist has three principal problems in the study of prices. In order to explain a high price, for example, he must consider first, the demand and the consumer; second, the supply and the cost of the producers, which is the great limitation on supply; third, the quantity of the medium of exchange, in terms of which all prices are stated. Chapter VI discusses the relation of price to demand. Chapters VIII, IX, X, XI, and XII analyze the relation between price and cost. Chapter VII considers the relation between price and the quantity of the medium of exchange. This analysis of price, then, will survey men in all of their economic capacities, in their efforts (production) to make a living (consumption), and it will also describe the mechanism (distribution and exchange) through which they are enabled to satisfy their wants in an economic system, which the division of labor makes so effective and at the same time so complex.

Practical Economics.—As the world nas become more widely settled and more thickly populated, as our desires have increased and become more complex, and as man's ingenuity has contrived newer and presumably better methods of satisfying those desires, economics has become a more and more complicated science. Agriculture, mining, manufacturing, and marketing are not the only problems the

economist must consider. Transportation, commercial geography, foreign trade, foreign exchange, banking, insurance, labor problems, and industrial management are some of the new branches of applied economics that have been developed within late years. There should be a particular demand in industry, to-day, for specialists in these branches of applied economics. It has been shown in Chapter I that the first political economists were finance ministers and university professors. There is a relatively small demand for political economists even to-day. Although the study of economics seems to thrive only in the universities, there is a great need in the government for an understanding of its principles. The business man, however, is not so interested in the well-being of society as he is in his own well-being. Although he may refuse to consider the economist's point of view, if he is wise, he will study the facts and conclusions that the economist presents.

The above mentioned branches of applied economics are being studied by many who contemplate entering business life. It has been shown that transportation is as much a process of production as the extractive and manufacturing industries. The study of industrial management is especially designed to help the producer, particularly in his efforts to increase production, reduce cost, and increase profits. Banking, corporation finance, investments, and insurance are all of particular interest to the producer and should indicate to him sound methods of finance as well as the possibility of eliminating certain kinds of risk. Even labor problems

are being studied for the benefit of the producer rather than for the laborer. Many employers are coming to find it necessary to understand the labor problem in order to produce efficiently.[4] It has been explained that the accountant is working for the producer and has his point of view. The accountant, therefore, is also interested in the problems of production; in fact, he is usually assisting in production. However, he has another interest in the branches of applied economics. He may be called upon to do work for a bank, an insurance company, an investment banker, or a railroad. Furthermore, in these days when most business units are corporations, the accountant must understand corporation finance in order to do his work properly.

The scope of this book does not admit of a discussion of all of these branches of applied economics. The fundamental principles of pure economic theory, however, must be understood before the problems of applied economics can be attacked. Special text books on these branches of applied economics should be consulted, although some of the fundamental principles of banking, corporation finance, and taxation will be introduced in the pages to follow.

[4] It is obvious, however, that the producer will become more interested in a method of increasing production, or, better, profit, than in a method of improving distribution. For this purpose, the engineer and the accountant are more useful than the economist.

CHAPTER VI

PRICE AND DEMAND

Price.—It has been explained that a thoroughgoing analysis of price would necessarily include the whole field of economics. Wages, interest, rent, and profit might be called the prices received for the services of laborers, capitalists, landowners, and entrepreneurs. But even when price is not used in so broad a sense, but is limited to mean the money value of goods, it may even then be considered the central problem of economics. Any man on the street will tell you that price is fixed by supply and demand. Whether he has analyzed this apparent truism is another question. When the supply of wheat is great, the price will be relatively low, but if the supply is small, the price will be relatively high. If the demand for wheat were to increase, other things being equal, the price would increase, and if the demand were to fall off, the price would probably decline. It is the price mechanism that adjusts supply and demand. If the supply of wheat in one year is relatively great, the price falls so that the supply is absorbed. When the price falls, producers of wheat find it unprofitable to produce this crop and will curtail their production in the next period. When the production is curtailed, the demand for this

staple commodity would force up the price to a point at which the growing of wheat would again become profitable. The price mechanism, then, might well be called the balance wheel between demand and supply.

Inasmuch as the producer must ultimately pay the factors of production out of price, it is usually assumed that price should at least cover his costs, which in Chapter VIII will be analyzed into the shares claimed in distribution. It is often said that the classical economists laid too much stress on the relation between price and cost and that they failed to consider the other price-determining factors, which are to be discussed in this chapter. In Chapter XII it will be shown that the price-cost relation is a fundamental one and that there is much new to be said about it. However, the other factors that affect price should not be neglected. The accountant is so occupied with the supply side of the equation that he often neglects the demand side. The salesman comes in more intimate contact with demand than any of the employees of a business organization. On the supply side, cost is the fundamental consideration, because the greatest limitation on supply is cost.[1] But these phases of the problem will be discussed in almost all the other chapters of this book. In this chapter the factors other than supply and cost will be considered.

[1] The reason why there is such a relatively large supply of some things is because it does not cost much to produce them, and the only reason why other things, very much desired, are not supplied in larger quantities is because they are costly to produce. Thus, cost and scarcity (as in rare or art objects) are the great limitations on supply.

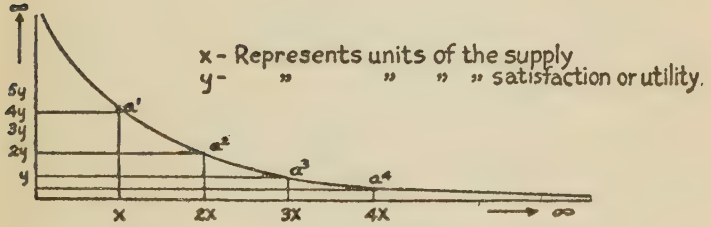
The analysis of demand necessitates a study of the consumer and his psychology. The consumer is, after all, the reason and the purpose for all economic organization. All of the accountant's work has for its ultimate purpose the satisfaction of the consumers' wants, although he, like the producer, does not always realize it.

A good is a physical thing that a consumer desires. A good is said to possess "utility" for the consumer. Goods, whether they are free or economic, possess utilities. When a good is merely useful, it is said to have a "value in use"; but when it is not only useful but limited in supply, it is an economic good and has "value in exchange." If water were a free good, as in a river-bank community, it would have merely value in use, but if it were limited in supply, as in some inland city, its possessor would be able to trade it for other economic goods and it would have value in exchange. It is important to note that some of the most vital necessities, which have the greatest value in use, as for example, air, sunshine, water, iron, wood, may have little or no value in exchange; whereas other things which have less value in use, as, for example, gold and precious stones, have very great value in exchange.

Marginal Utility.—If Crusoe on his desert island had been able to save no food except one box of crackers from the wreck, that unit of food would have had incalculably great utility for him. If soon after he had discovered a second box, each box would have had a somewhat smaller utility. And

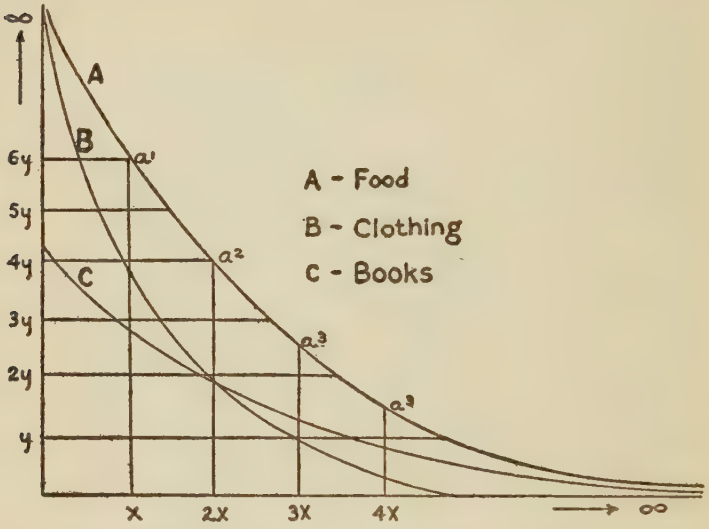
with the discovery of subsequent boxes, the utility of each box would have decreased. Even though crackers more nearly approach the staff of life than any other food, a steady diet of crackers would prove nauseating, and the utility of fruits and game, which he might have been able to procure on the island, might have been greater than the inevitable crackers. If the island had readily supplied his food needs, an article of clothing would probably have had a greater utility than an article of food. Later, when all the primary necessities of life were satisfied, a book would have had a greater specific utility for him than any unit of food or clothing, even though the first units of food or clothing would have been indispensable.

This can be represented graphically as in the following diagram:



When the supply is very small, the utility of one unit becomes indefinitely great, that is, it approaches infinity; but as the supply increases, the utility decreases. When the supply becomes infinite, the specific utility of one unit approaches zero, as in free goods. The curves for food, for clothing, and

for books might be shown in the same diagram as follows:



In the food curve A, a supply so small as to approach zero would have a utility approaching infinity. This would not be so true of the book curve C. The extent to which the curve for a commodity would approach infinite utility with a supply approaching zero might be used to furnish a good basis for the distinction between luxuries and necessities. If Crusoe, after supplying his food, clothing, and shelter needs, had died of boredom because he had no books, his book curve should have been drawn similar to the food curve in the diagram. For him, books would have been a necessity. But as the book curve is drawn, books are assumed to be luxuries.

It should be noted that, as the curves are drawn, it takes fewer units of clothing, curve B, than of books, curve C, or units of food, curve A, to satisfy Crusoe. Furthermore, after he has had $2x$ units of both clothing and books, thereafter, each new book has a greater utility than a new article of clothing. If the utilities of the different units of food be added, and a continuous curve be assumed, the area bounded by the curve and the two axes would represent the total utility of food for Crusoe. Inasmuch as the first unit of food has a utility approaching infinity, the area would be indefinitely great, stretching up along the vertical axis. As new units are added the total utility is increased, but only very slightly when the supply becomes great.

Although the total utility of clothing is greater than the total utility of books, after $2x$ units of both are brought into existence or consumed the utility of the third unit of books is greater than the utility of the third unit of clothing. This last unit is called the marginal unit, and its utility to the consumer is called the marginal utility of the commodity.

Thus, the marginal utility of a product for any consumer is the utility of the least desired, that is, the last created or consumed, unit of the supply. The seeming paradox that things that have little value in use may have great value in exchange is explained by the marginal utility concept. The total utility, determined by the value in use, of food or clothing approaches infinity, but their marginal utilities, which measure their values in exchange,

are relatively small because of the large supply; whereas the total utility of diamonds is far less considerable, but their marginal utility and, consequently, their exchange value is very great because of the limited supply.

Marginal Utility, Cost, and Price.—The value in exchange of a commodity, expressed in monetary terms, is its price. The price that any consumer will pay for a commodity will be determined by its marginal utility to him. In making a choice between the various purchases he can make, their various marginal utilities will be measured by him alongside of the marginal utility of the money he must pay to get them. If there are three things equally desired, that is, with the same marginal utility for him, he will buy the cheapest because it involves the least sacrifice of money, but if the three have unequal marginal utilities for him, he will probably select the one that has a marginal utility most in excess of the marginal utility of the money necessary to procure it. It should be obvious that the judicious consumer will not make the exchange if the marginal utility of the commodity to him is not greater than the marginal utility of the money he must pay to get it.

The way in which utility affects price and the relation of utility and cost to price can be made clear by an example. If the cost of growing a peck of one vegetable was 45 cents, the huckster might ask 50 cents for it. The judicious consumer would balance the marginal utility of a peck of the vegetable against the marginal utility of the 50 cents he would

have to pay to get it. The marginal utility of 50 cents would depend upon how much money he had, and upon the marginal utility to him of other vegetables of the same price, or even of other foods and of other articles. If he thought of many more necessary or more desirable things he could purchase for a half-dollar, he would probably not buy the vegetable, particularly if he were not rich, that is, if the marginal utility of money was large for him. Other richer consumers might buy it, because for them its marginal utility would be greater than the marginal utility of the money demanded. Presumably the price of this vegetable might be put so high that only a few would purchase it; in that event, the huckster would have to reduce his price in order to market all of his product. Thus, not only his cost but the marginal utility of the commodity to consumers collectively would determine his price at any one time. If the reduced price gave him no profit, he would have to attempt to reduce his cost or stop growing the vegetable. If he could reduce cost sufficiently, so as to be able to sell at a price below the marginal utility of the commodity to consumers, collectively considered, he might continue to produce at profit. But if he could not reduce cost, he would have to curtail production. The curtailment of production would probably increase the marginal utility of the vegetable, because marginal utility is determined not only by the desirability (value in use) of the good but also by the number of units of the supply. Thus, the curtailment of the supply would increase this vegetable's marginal utility and would

enable the huckster to ask a higher price. This analysis is merely a restatement of the modus operandi of the price mechanism, given in the earlier part of this chapter.

These principles may seem like mere common sense, but their relation to prices is often overlooked by the accountant, who is immersed in the problems of supply and cost. The accountant should be made to realize that cost is not the only consideration in price making; demand and the marginal utility of the commodity to the consumer affect price as definitely as cost does. In other words, price is the result of a bargain, and it takes two to make a bargain. The producer's cost is no more important than the consumer's marginal utility in the final determination of the price to be charged.

Artificial Stimulation of Demand.—The foregoing analysis of the relation of marginal utility and price may seem to presuppose that the consumer always balances the marginal utilities of the different commodities before he makes a purchase. The ignorance or carelessness of consumers in balancing the different marginal utilities is just as "uneconomical" as wasteful or clumsy methods of production. One ideal of economics is the greatest possible satisfaction of consumers, and it is just as important as the other important ideal, the production with the least possible effort. Consumers are best off when they derive the greatest sum of marginal utilities from their expenditures. Obviously, any means that would educate the consumer to buy those things, which will have high marginal utility for him, and

not to spend his money on those things that have little or no marginal utility for him would be economical. Advertising and salesmanship are methods by which the producer attempts to affect the consumer's psychology. If these selling methods induce the consumer to buy a rubber heel rather than a leather one, and if it can be assumed that a rubber heel will come to have a greater utility for the consumer after he becomes educated to it, they are economically desirable. In so far as advertising is instructive, it helps the consumer to make more rational choices. When a new commodity with a real utility for the consumer is introduced by either of these methods, they may be entirely justified, but inasmuch as most advertising and salesmanship are calculated to stimulate the producer to buy a particular brand, that may be no better and is often poorer than some of the other brands, and to buy that brand in larger quantities than its marginal utility justifies, advertising and salesmanship may become interferences with the free play of competition and with the consumer's greatest possible satisfaction.

CHAPTER VII

PRICE AND THE MEDIUM OF EXCHANGE

The Marginal Utility of Money.—It has been explained that the price the consumer will pay is determined not only by the marginal utility of the commodity he intends to buy but also by the marginal utility of the money necessary to make the purchase. Money has not the quality of satisfying the consumer's desires directly, in other words, it has no value in use but only value in exchange. The consumer, before he parts with his money, theoretically considers the marginal utilities of all the different things that that particular amount of money will buy. The marginal utility of a dollar, then, to any consumer would probably be somewhat less than the marginal utility of the thing purchased with that dollar. As the marginal utility of a commodity will vary for different consumers according to the number of units of the commodity they have consumed or acquired, the marginal utility of money will also vary according to the amounts they have.

If a poor man and a rich man were equally hungry, the rich man would be able and willing to pay much more for a good steak. The poor man might offer one dollar whereas the rich man would offer three dollars. As it has been assumed that the marginal utility of the steak for the two men was equal in

this instance, it appears that the marginal utility of a dollar was three times as great for the poor man as for his richer brother. Apparently the more dollars there are, the smaller will be the marginal utility of each, and the higher will be prices that consumers will pay for goods. The relation between the quantity of money in existence and prices will be further explained in this chapter.

On his desert island Crusoe produced all that he consumed. There was no need for exchange of commodities. However, if Crusoe and Friday had worked independently, Crusoe on certain things and Friday on others, they might have exchanged their products under some system of barter. If they had found that it took either one of them a day of patient effort to catch 10 fish and the same expenditure of energy to gather five boxes of wild strawberries, a box of wild strawberries would probably have exchanged for two fish, provided they were both equally as fond of the two products, that is, that the marginal utilities of the two foods were equal for both of them. It is apparent that in a complicated social organization, such as exists to-day, this system of barter would be impractical. Producers would not be able to estimate with even a practical degree of accuracy the relations of their products to the many other kinds of products. The other factors of production would have to be paid in kind and, then, would need to find others who would exchange commodities with them. The great difficulties in the way of barter for any advanced society would be too numerous and too obvious to consider.

The Standard of Value and the Medium of Exchange.—If Crusoe and Friday, for the purpose of the exchange relation, had reduced all the goods and services, which they produced, to a common standard such as a fish, they would have been using a fish as a standard of value. Then, instead of innumerable exchange relations, such as four boxes of strawberries equal one rabbit, and two rabbits equal one-half day's work on the hut, and four boxes of strawberries equal eight fish, and all the other possible combinations, there would be just one set of relations, one box of strawberries equals two fish; one rabbit equals eight fish; one-half day's work on the hut equals 16 fish. Although a fish might be used as a *standard of value,* that is, a commodity that can be used as a measure for the value of other commodities, it would hardly serve as a *medium of exchange,* that is, a commodity that can be stored or carried around to be given in exchange for other commodities. Fish spoil rapidly and they could not be carried around. The Indians used wampum; as a medium of exchange it was durable, as a standard of value it represented to them a very desirable commodity that embodied great satisfactions in small bulk. The most primitive people seem to have realized the need of a *medium of exchange* that was at the same time a *standard of value.*[1]

Gold, silver, and other valuable metals are used

[1] A good standard of value should be capable of being stored and held, so that the total quantity is not much affected by a new year's production. Theoretically, this is true of gold, and prices are not much affected by the new supply. The general rise in prices since 1896, however, was largely due to increased gold production.

to-day in coin by most of the civilized nations as the standards of value and as media of exchange. They are universally desired; they represent relatively great value in small bulk and thus can be readily transported; they are durable but capable of taking a permanent impression; they can be melted and redivided into a number of parts. These qualities make them ideal standards of value or media of exchange.

There is one difficulty involved in using gold as a medium of exchange, and that is in keeping it in circulation. Gold wears off very rapidly, and gold coins are soon worth less in metal than their face value would indicate. The United States Government keeps gold and silver in its vaults but prints paper money, called gold certificates and silver certificates, for every dollar in its possession. These certificates circulate and are legal tender, which means that the law forces creditors to take them in payment of debts. This paper money is economical, because it saves the abrasion of the precious metals and because it is easier to transport. Although these certificates have no value in use, they have value in exchange because they are legal tender, because there is gold and silver behind them, and because, even if there were no actual gold and silver bars in the Treasury's vaults, the public has confidence in the United States Government's guarantee of their value. The greenbacks, which were issued by the Government with no deposit of metal dollar for dollar, circulate as freely as gold or gold certificates.

Paper Money.—There are other kinds of paper money in circulation than those described, but they

are banking currency and cannot be understood without some knowledge of the banking system. Probably the best way to understand the origin of banks and banking currency is to consider the early goldsmiths of Amsterdam. These goldsmiths not only worked on gold but early began to lock it away for those who wanted it left in safe-keeping. The goldsmith's receipt, given the owner of the gold, might very well have been the oldest kind of banking currency. If a reliable goldsmith's name had become well known, his receipts might have circulated almost as freely as the gold itself. When the goldsmith found that he could issue more receipts than were actually covered by the gold in his keeping, or the reserve, because all of the holders of receipts did not redeem them at one time, he began to create banking currency, or credit. This is a simplified description of the way in which a bank creates banking currency or bank notes.

The receiving of deposits and the issue of bank-notes is only one of the two principal functions of a modern bank. The other important function might be called the discount function. When a manufacturer has sold goods to a customer, he may receive the customer's note rather than cash. If the note is not due until some time in the future and the manufacturer needs the money, he can take it to the bank and receive the amount of money called for on its face minus a discount, which is what the bank exacts as a toll for supplying the manufacturer with capital. At the maturity of the note the bank collects its face value. Discount then is another name for interest.

A manufacturer can also borrow from a bank on collateral, that is, on stocks or bonds. The bank does not actually give the borrower gold or bank notes but a credit on its books against which the borrower can draw checks. Checks and bank notes, then, are the principal media of exchange created by the banks, and circulate in the same way metallic coins do.[2]

The Quantity Theory of Money.—The quantity of the medium of exchange in existence at any one time is generally believed to have a definite relation to the prices of commodities. If all the owners of goods wanted to sell their possessions for metallic currency, but on this occasion were willing to part with them for all the coins in existence, the prices they would receive for their goods would be equal to the numbers of dollars, half-dollars, quarters, dimes, nickels, and cents given them. If the quantity of these dollars were doubled, they would have received prices just twice as great as in the first example. If the Indians had found some easy mechanical way of producing wampum, the quantity of this medium of exchange would have been increased, and, as it increased, its ratio to other things would have decreased, that is, other things would have been worth more units of wampum or, in our terms, would have increased in price.[3]

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[2] For a lucid and attractive description of the different types of money, see Hartley Wither's *The Meaning of Money.*

[3] A more elementary method of explaining the quantity theory of money may be helpful for the beginner. If Friday had caught 10 fish and had eaten five of them and Crusoe had found five shiny pebbles and had his fill of gazing at them, they might have made an exchange, had Crusoe wanted the fish and Friday the pebbles. Then,

Professor Irving Fisher's work on the quantity theory of money is an attempt to give a more elaborate analysis of these fundamental principles. His exposition of this theory and his statistical work on it can be found in his book entitled *The Purchasing Power of Money* (New York, 1911). Near the end of Chapter II of his book is the following paragraph:

> In short, the quantity theory asserts that, provided velocity of circulation and volume of trade are unchanged, if we increase the *number* of dollars, whether by renaming coins, or by debasing coins, or by increasing coinage, or by any other means, prices will be increased in the same proportion. It is the number, and not the weight, that is essential. This fact needs great emphasis. It is a fact which differentiates money from all other goods and explains the peculiar manner in which its purchasing power is related to other goods. Sugar, for instance, has a specific desirability dependent on its quantity in pounds. Money has no such quality. The value of sugar depends on its *actual quantity*. If the quantity of sugar is changed from 1,000,000 pounds to 1,000,000 hundred weight, it does not follow that a hundred weight will have the value previously possessed by a pound. But if money in circulation is changed from 1,000,000 units of one weight to 1,000,000 units of another weight, the value of each unit will remain unchanged.

Price Indices.—The quantity theory maintains that variations in the quantity of money normally bring about proportional changes in the price level,

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the price of a fish would probably have been one pebble. However, had Crusoe found ten pebbles, the price of a fish would have been two pebbles. The quantity theory states that prices of commodities vary directly with the quantity of money used in exchange.

that is, prices as a whole. Thus, inasmuch as the circulating media in the United States have increased since 1890, the general level of prices has increased proportionally. Although the prices of some commodities may have risen since 1890, the prices of other commodities may have fallen in the same period. The price of a bushel of wheat in 1920 may be much higher than it was in 1890, but the price of a case of canned goods may be lower. Some special causes, such as scarcity of farm labor or improved methods of canning, may explain the particular price movements of these two commodities. The quantity theory of money assumes that whatever may be the special causes for price changes in any particular commodity, the prices of commodities as a whole will rise, if the quantity of money is increased and will fall, if it is decreased. Therefore, it early occurred to economists and statisticians that if the average of a large number of prices, including the prices of all the important commodities, for 1890 were compared with an average of the prices of the same commodities for 1920, it would be possible to determine whether prices as a whole had risen in the period. A simple average of the prices of a bushel of wheat, of a ton of coal, of a paper of pins, and of a horse would have given undue weight to the coal and the horse. Nor would this have been corrected if the number of commodities chosen had been very large. However, if the prices of all the different commodities in 1890 had been represented by 100, and if the prices in the other years, for which comparison were to be made,

had been compared with the 1890 prices and shown as percentages of 100, the difficulty, growing out of the fact that the sales units of the different commodities, such as wheat and coal, differed in value, would have been eliminated. However, it is obvious that this method would have given equal weight to changes in the prices of wheat, of pins, of coal, and of horses. Obviously wheat and coal are more important, that is, more widely used, than pins or horses. Therefore, weights had to be devised before the percentages could be averaged. The weights used might be the total sales quantities for the industry as a whole, of the commodities, the prices of which are being used.[4]

If the prices of only five commodities were being used to construct an index of prices (at least one hundred or two hundred commodities are needed for a reliable index), the procedure might be illustrated by the following figures. The prices of the five commodities might have been as follows:

	Commodity I	Commodity II	Commodity III	Commodity IV	Commodity V
1890.....	$4.00	$.04	$2.00	$1.00	$.10
1900.....	4.00	.01	2.50	1.50	.15
1910.....	5.00	.02	4.00	1.00	.20
1920.....	6.00	.04	4.50	.50	.25

Using the prices of 1890 as a base (100), the relative prices for the other years would be as follows:

[4] The weights are sometimes obtained from the proportional expenditures for the different commodities in the family budget.

	Commodity I	Commodity II	Commodity III	Commodity IV	Commodity V
1890.....	100	100	100	100	100
1900.....	100	25	125	150	150
1910.....	125	50	200	100	200
1920.....	150	100	225	50	250

If 500,000,000, 2,000,000,000, 400,000,000, 600,000,000, 4,000,000,000 represented the sales in quantities in bushels, pounds, or quarts of the five commodities in order, the weights would have been as follows:

Commodity I	Commodity II	Commodity III	Commodity IV	Commodity V
5	20	4	6	40

The relative figures then should be multiplied by the weights and averaged, that is, the weighted relatives should be added and divided by the sum of the weights, 75.

	Commodity I	Commodity II	Commodity III	Commodity IV	Commodity V

$$1890..... \frac{(5\times100)+(20\times100)+(4\times100)+(6\times100)+(40\times100)}{75}=100$$

$$1900..... \frac{(5\times100)+(20\times25)+(4\times125)+(6\times150)+(40\times150)}{75}=112$$

$$1910..... \frac{(5\times125)+(20\times50)+(4\times200)+(6\times100)+(40\times200)}{75}=147$$

$$1920..... \frac{(5\times150)+(20\times100)+(4\times225)+(6\times50)+(40\times250)}{75}=186$$

Therefore, if 1890 be taken as a base year (100), the index of prices in 1900 was 112, in 1910 it was 147, and in 1920 it was 186. According to these figures, there appears to have been a general rise in prices since 1890, although in 1900 and 1910 the price of Commodity II fell and in 1910 and 1920 the price of Commidity IV also showed a decrease.

The Economic Evils of Changing Price Levels.—In a period of rising prices, the entrepreneurs reap relatively large profits because the amounts they have to pay the other factors of production are more or less fixed, whereas the prices they receive are constantly increasing. If laborers are organized they can attempt to keep pace by demanding increases in wages with every increase in prices, but the capitalist, the bond-holder who lends his money for long periods at a fixed rate of interest, and the unorganized laborers lose what the entrepreneurs, or the stockholders, gain. The way in which an entrepreneur benefits in a period of rising prices can be illustrated by a concrete example. The unit costs of producing a commodity in two different months in such a period might be as follows:

	January Costs per unit of product	June Costs per unit of product
Raw materials	$2.00	$2.20
Labor	1.00	1.10
Interest	1.00	1.00
Other Expenses	2.00	2.15
	$6.00	$6.45

Assuming prices had increased 10 per cent in this period as reflected in increased raw material costs, if the price in January was $7.00, the price in June would have been $7.70. Then, the profit in January ($7.00—$6.00) would have been only $1.00, whereas in June it would have been ($7.70—$6.45) or $1.25. Furthermore, if the manufacturer had produced goods in January and had not sold them until June, the profit would have been $1.70 on every unit. Even if the laborers had been well organized and had received an increase comparable to the rise in the cost of living, as evidenced by the rise in the price of this commodity of 10 per cent, the entrepreneur would still have had the advantage of a stationary interest rate on long-term investments and of selling goods in a market higher than the market in which those goods had been produced. If the entrepreneur borrowed most of his capital on short-term notes from the banks, he might have to pay higher interest rates as prices ascended.

Professor Fisher has proposed stabilizing prices by keeping the number of dollars in circulation constant. Thus, it is assumed that rising prices are due primarily to an increased quantity of the circulating medium and that if the rise is to be checked, the quantity of the medium must be reduced. If the number of paper dollars bears a direct relation to the number of gold dollars, and as the number of gold dollars can be reduced by increasing the number of grains of gold in a dollar, the total quantity of money can be regulated at will, and prices can be automatically adjusted. Although it seems true that

the most important factor in explaining the long-time fluctuations in the price level is the change in the quantity of money, the quantity of paper money is as important as the quantity of gold and there is reason to believe that the quantity of paper money does not always bear so fixed a relation to the quantity of gold as the quantity theorists have sometimes been in the habit of assuming. However, a number of economists have come to believe that some regulation of the quantity of money in circulation, whether by the stabilization of the dollar or otherwise, is necessary in order to control unnecessary fluctuations in the price level.

CHAPTER VIII

ECONOMIC COST AND ACCOUNTING COST

Economic Costs.—Cost may be defined as the sacrifices or expenditures made in the process of obtaining satisfactions or accomplishing ends. Thus, the costs of war include human lives, expenditures for munitions, as well as other sacrifices and losses that are harder to measure. As man's efforts to make a living constitute the economist's problem, it is obvious that the analysis of these efforts or costs is a large part of economic science. To the positive efforts spent in production must be added the negative sacrifices in order to measure the total human costs of production. These human costs include all the labor, physical and mental, and all the sacrifices expended in producing goods and services. It has been explained in the preceding chapter that the productive process requires the services of laborers and probably of entrepreneurs together with the sacrifices or postponements of capitalists. All the physical exertions with the attendant fatigue and all the mental discomfort expended in production constitute the human costs or sacrifices. Nothing could be produced without some waste of energy, fatigue, and postponement of pleasure. These human costs include many elements that are difficult or impossible to measure in monetary terms.

Society's negative as well as positive exertions might be measured in pain units, and human costs may be designated sacrifice or pain costs.[1] If the pain or sacrifice units could be standardized for all those who aid in production, each unit might be given the value *s*. One laborer might exert 1,000 units of *s* in the same time and with the same effect that another laborer would exert 2,000 of the same units. Thus, 1,000 *s* would be the sacrifice cost of the first laborer whereas 2,000 *s* would represent the sacrifice cost of the second laborer for the same quantity of product, or *p*. If it took *x* units of *s* to produce all commodities, *p*, then,

xs is the cost of *p*

The sacrifice or pain cost of production, *xs*, could be kept stationary or decreased while the total quantity of product, *p*, might at the same time increase. This could be accomplished by a more effective application of the sacrifices expended. Obviously, it is the goal of economics to reduce *xs* as much as possible, and, in so far as more goods and services are needed, it is desirable to increase *p* at the same time. If *xs* were expended ineffectively, *xs* minus *ys*, or *zs*, might have been all the cost necessary to produce *p*, where *ys* represents all the pain units that were needlessly sacrificed, and where *zs* represents the least possible cost. The economist often considers the loss due to the ineffective application of sacrifice as the sacrifice cost; in terms of sacrifice or pain

[1] Where the capitalist has so much, the sacrifice in saving may be negligible, but this may also be true of the laborer who loves his work.

units, this cost would be *ys*. Although this might be considered loss or waste, it does not constitute the entire sacrifice cost and is only a part of it. This can be demonstrated in mathematical terms as follows:

As long as some sacrifice or pain will probably always be involved in production, *zs*, the least possible cost, will always be a positive quantity, and *xs* minus *ys* equals *zs*. Then, *xs* will be greater than *ys*, and the entire sacrifice cost will be greater than the sacrifice needlessly expended.

Although the conception of cost that has been presented is the concern of the economist, many of the elements of this sacrifice cost cannot be measured accurately in money. Economic science, inasmuch as it treats of a monetary or price system, usually attempts to apply the monetary or numerical measure to its concepts. Many sacrifice costs cannot be computed accurately but are reflected, neverthless, in money values. The undertaker's possible repulsion to his work cannot be measured by him in monetary terms and should probably not be included as one of his costs; however, in so far as the disagreeableness of the work reduces the number of competitors who enter the field, it probably increases the profit of those who are willing to follow this vocation.[2]

The concept of sacrifice cost is sometimes made even more embracing. Loss by fire and the consumption of goods might be counted as costs to be added to the costs involved in the production of the goods burned or consumed. But it should be obvious

[2] See page 140 where the relation of risk to profit is discussed.

that consumption is accomplishment, the end of cost, and that even though loss by fire might be considered a social loss, it could not be called a cost of production. Depreciation, too, may seem to be an economic cost, but the analysis of this item, which is to be given later, will show that although it can be reduced to economic cost, it should not be added in with the subjective human, or sacrifice, costs because such procedure would involve a duplication, that is, adding twice the human costs involved in the production of the fixed capital goods depreciated.[3]

Money Costs.—The economic concept of cost is puzzling to the average man because he always thinks of cost in terms of money. To him, the cost of labor is what the laborers are given in money wages. He thinks of wages, interest, rent, profit, depreciation, and taxes, as the costs of production. Marshall would, perhaps, call these the *expenses* of production, but there is nothing to be gained by this terminology.[4] It is clear that the sum total of wages, interest, rent, and profit equal the sum total of all of the prices paid by all consumers; therefore, the aggregate of these money shares might be called the consumer's cost of production. It represents the money demanded from the consumer by the factors of production; it is, therefore, the consumer's cost, or what he has to sacrifice to gratify his desires. There is another conception of consumer's cost that should be considered here. Many economists who realize that consumption and the consumer are prob-

[3] See page 110.
[4] Alfred Marshall, *Principles of Economics*, p. 418.

ably the principal interest of economics believe that society and the consumer is best served when prices are as low as possible. However, if the price of a commodity in any period were too far below costs, some companies might fail and production would certainly be curtailed. In that event, prices might subsequently rise and the consumer would have to pay more for his satisfactions because he had obtained them at too low a price in the past. Thus, the consumer's ultimate cost is not merely present price but an average of both present and future prices.

Accounting Cost and Entrepreneur's Cost.—In all that has been said about cost, no mention has been made of cost, as the accountant defines it. Although the accountant's cost is neither the sacrifice cost nor the consumer's cost, these broader conceptions must be grasped before the accountant's practical interpretation of them can be properly understood. The accountant is not keeping books for society or for the consumer; he keeps his accounts for the entrepreneur, in a corporation the common stockholders, for whom he is a hired laborer.[5] The entrepreneurs have little or no interest in society's costs or sacrifices; they are merely interested in what they have to expend and sacrifice in order to accomplish their ends, namely, production and the earning of profit. Their expenditures include the raw materials used, the wastage of fixed capital goods, what has to be paid the other factors of pro-

[5] The principal purposes of the accountant's itemized cost were discussed on page 16 in Chapter II; they are set forth compactly, however, in Appendix I.

duction, and what is taken by the state. In this respect, their costs are identical with the consumer's cost, except that the consumer's expenditures include the entrepreneur's profit, whereas the entrepreneurs naturally exclude their own remuneration.[6]

Theoretically, accounting cost should include every item of price except the profit claimed by the entrepreneur. It will be shown, however, that some of the elements of price cannot be included in accounting cost for practical reasons. Some elements of price, which the entrepreneur does not receive, such as the income tax (page 193), donations (page 190), as well as bad debts[7] and cash discounts on sales,[7] which might be considered as elements of gross selling price, cannot be included in accounting cost. *Accounting cost might be defined as all the entrepreneur's necessary expenditures or sacrifices in production, which are not dependent upon the consumation of the sale of the product.* The full significance of this definition will be grasped after reading the next two chapters, the discussion of the tax on profits as a part of cost, and Appendix II.

Entrepreneur's cost is often thought of as merely the money disbursements that the entrepreneur makes to persons other than himself. The fallacy in this idea should be immediately evident. When a person or group of persons embodies the entrepreneurial functions, that fact does not preclude the same person or persons from embodying the function of one or more of the other factors of production.

[6] See Appendix II.
[7] See Appendix II.

The classic shoe repairer, who had accumulated the capital necessary for the purchase of his capital goods, who hired no laborer, had practically no costs if money disbursements to the other factors of production are the only costs.[8] The shoe repairer may have thought of his receipts as all profit, but careful analysis would have shown him that they came to him not only as entrepreneur, but also as capitalist-laborer, and that they were for that reason not only profit but interest on his invested capital and wages for his labor. If A embodies the functions of laborer, entrepreneur, and capitalist, he should be thought of as a different economic person in each capacity: as entrepreneur, he would be A_1; as laborer, A_2; as capitalist, A_3. Then A_1, entrepreneur, owes A_2 and A_3 wages and interest respectively if A is not only entrepreneur but laborer and capitalist as well. Entrepreneur's cost, then, is consumer's cost, that is price, minus the profit of the entrepreneur for whom the cost computation is being made. Just as the consumer's costs represent the consumer's sacrifices, or payments in order to consume, so the entrepreneur's cost represents his sacrifices, be they his money expenditures to others, his own work, or any other sacrifices he may make in his other economic capacities. The money the entrepreneur has to pay to others, the wages that he owes himself as laborer, and the interest that he owes himself as capitalist should all be included in his cost. It might be asked whether the undertaker's repulsion is a part of his

[8] His raw material costs, probably included in overhead, and taxes, however, were actual disbursements.

cost. This repulsion is a sacrifice of the entrepreneur, as entrepreneur, and not as laborer or capitalist. Whatever he is paid for overcoming his repulsion is reflected in a higher rate of profit.

Most accountants maintain that the pure entrepreneur's cost is not the cost that they are attempting to determine. They note that the entrepreneur in most business organizations usually owns a part of the capital. Therefore, they feel that they are computing a cost for their employer as capitalist as well as for their employer as entrepreneur. This problem will be discussed in Chapter X and in Appendix I. The entrepreneur's cost, which may or may not be in the proper conception of cost for the accountant, is the consumer's cost minus the profit of the entrepreneur for whom the cost computation is being made. It was not stated, however, that the entrepreneur's cost is the consumer's cost minus all profit or that it is merely wages, rent, and interest. As a matter of fact, any one entrepreneur's cost includes some profit. Practically every entrepreneur has to buy raw materials from which to manufacture his finished product. What he pays for this raw material is divided between the laborers, the landowners, the capitalists, and the entrepreneur of the company from which he purchased. Thus, the raw material cost of one entrepreneur represents embodied wages, rent, and interest, together with profits to entrepreneurs, who were concerned with earlier stages of production.

It might occur to the accountant that the Cost account contains many items other than wages, rent,

and interest; in fact, some might only identify wages. It will be shown in the next chapter, however, that all of the items of the Cost account, Raw Materials, Materials and Supplies, Maintenance and Repairs, Light, Heat, Power, Depreciation, Depletion, and the other items of Overhead, can be analyzed into the economic categories already described.

Theoretically, the total receipts of the entrepreneur, Sales, representing an aggregate of prices paid by the consumers, are distributed through him to the other factors of production. As a matter of fact, however, the entrepreneur has to make many disbursements before his goods are sold and his sales receipts obtained. This is made possible by the use of the capital loaned him by the capitalist. Thus, capital not only enables the producer to obtain the fixed capital goods necessary in production, but it supplies him with the means of paying his costs, raw materials, interest, rent, and wages, before he realizes anything from the sale of his finished products.

CHAPTER IX

THE ELEMENTS OF ACCOUNTING COST

In this chapter accounting cost and the items that compose it will be considered. If the accountant is determining the cost of producing a certain quantity of flour, which was manufacturred in a definite period, he should include all the expenditures and economic sacrifices of the flour miller that went to produce that particular quantity of flour, but he should not include the entire cost of the machinery or of any other kind of capital goods that were expected to last longer than the stated period of production. The depreciation on these fixed capital goods, or that portion of the fixed capital goods that is used up, however, is a part of his cost.[1]

Thus, as was explained in the last part of Chapter VIII, the accountant conceives of the capital obtained by the entrepreneur as flowing off into two separate streams: (1) into current expenses or costs of production, such as wages, interest, rent, and raw materials; (2) into fixed investment, such as buildings, machinery, land, which is supposed to last for many production periods.

The main subdivisions of accounting cost for a manufacturing establishment, where cost accounting

[1] See Chapter X.

is most necessary,[2] are Raw Materials, Labor, Factory Overhead, including Rent actually paid, General and Administrative Expense, Selling Expense, and Depreciation. There is considerable debate about Interest. The first two items are often called prime costs, and theoretically can be separated so that each of the finished products can be made to bear the exactly correct parts of these items that are attributable to it. The next two items are sometimes grouped together and called Overhead, but when there are a number of factories distinct from the general office, this separation is valuable. The distinction between prime cost and overhead lies in the fact that the overhead has to be spread over the entire product according to some estimate and cannot be distributed to each part thereof on so accurate a basis.[3] Selling Expense applies to the goods sold and not to those produced, and when there are widely differing inventories, output and sales will be very different. Depreciation on the capital goods of the factory is often considered a part of Factory Overhead, and depreciation on the fixtures and furniture of the general office is generally included in General and Administrative Expense. The much discussed question regarding Interest as a cost item will be presented in Chapter X and Appendix I.

Raw Materials.—The first item in the manufacturer's cost is Raw Materials. The refiner must have his crude oil; the meat-packer must have his cattle;

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[2] See Chapter II, page 15.

[3] There is another important distinction between prime costs and overhead (see page 157).

the tomato canner must have his raw tomatoes. The exact amounts of money spent for these raw materials represent the Raw-Material costs of the respective producers. If the tomatoes had to be hauled to the cannery, the hauling or collecting expense might well be included in the Raw-Material, or tomato, cost. If some of the tomatoes were spoiled, and if the canner were granted a certain allowance, the amount thereof would be deducted from his cost. It has already been pointed out in the last chapter on page 84 that the Raw-Material cost represents embodied wages, rent, interest, and profit. The canner's cost of tomatoes represents the prices paid therefor, that is, the wages paid to farm hands, the rent paid to landlords, interest paid to the banks, and profit surrendered the farmer.

A difficulty arises when the producer also manufactures his raw material. The refiner quite commonly owns the company that produces the crude oil. The accountant insists that the refiner include all crude oil at the actual cost thereof and that the crude oil should not be transferred from the producing company to the refining company at market prices, which might thereby introduce a profit to the refiner into his cost.[4] When the refiner complains that this procedure would allow his competitors, who buy their crude oil, to show a higher Raw-Material cost, because it would include the profit on crude oil paid the crude producers, the accountant

[4] In the trade, the crude oil producers are called "producers." As a matter of fact, from the economic point of view, they are no more producers than the refiners are (see page 20).

answers that such refiners have higher costs.[5] Their oil costs are higher because their production unit is not so complete. The refiner who obtains more capital and who can produce his own crude oil will have a lower cost just as the large shoe factory with a large amount of machinery will probably produce more cheaply than the small shoe factory with little machinery. The refiner who produces his own crude oil might also be answered by being told that, whereas his competitors have higher material costs, he has a compensation in a larger investment, that is, the investment in producing as well as in refining, on which to calculate interest or to measure gross profit—economic interest and profit. Obviously, the refiner must realize that allowing a profit on crude oil in his cost would be no different from allowing a profit on the oil, left after the gasoline process had been completed, in computing the cost of a heavier product, such as fuel oil. Or, to take a simpler example, the pie maker who makes his own preserves would not include a profit on preserves when he was computing the raw material cost of his pies. All of the processes necessary for the completed pie or for the refined petroleum products should be treated as one operation and no interdepartmental or intercompany profits should be allowed.

It might appear that in certain extractive and genetic industries there is no Raw-Material cost. A

[5] The refiner would only make such a complaint when he is thinking of the Income Tax or price fixing; a producer always wants to have low costs even though he might not want them to appear so.

farmer only needs to buy seeds, and for some crops it is conceivable that he would not even have a seed cost. A man might rent a field merely for its uncultivated field mushrooms. If he picked them and marketed them, he would be conducting an economic organization but would apparently have no cost of Raw Materials. As a matter of fact, he would probably have to pay a higher rent because of the mushrooms. In that event a part of what he called rent would actually have been Raw-Material cost. The farmer's Raw-Material cost, for the same reason, might be considered to include not only the cost of the seeds, but also the rent paid for the use of the soil. The difference between this kind of rent and pure location rent will be explained in the next paragraph.

The Raw-Material cost in copper mining or in crude oil producing is the payment made for the use of the land under which operations are being carried on. If the producers have to purchase a lease, the accountant might tell them to take the actual cost of the lease and divide it by the number of periods of anticipated production in order to determine the Depletion cost for each period. This Depletion cost is similar to Raw-Material cost. If the supply is not "depleted" in equal proportions in each year, the Depletion is charged in each period according to the quantity withdrawn. Probably the best method of charging Depletion can be illustrated by an example. If a producer of crude oil had to pay $200,000 for the lease of a piece of land that the geologists estimated would yield 100,000 barrels over a period of 10 years,

the Depletion per barrel would be $2. Then, if 10,000 barrels were "lifted" in the first year, the Depletion charged to cost would be $20,000, but if 20,000 barrels were taken out, the Depletion would be charged at $40,000. However, the fact that the first year's flow was larger than might have been expected may have resulted in a revision of the estimated number of barrels in the deposit to 200,000 barrels; in that event the Depletion per barrel would have been $1, and the first year's charge $20,000. The oil producer often has to pay a yearly rental in addition to what he pays for the lease. There are, then, two kinds of rent: one kind is paid for a location, that is, a convenient place on which to produce; the other kind is paid for the actual properties of the soil and is largely material cost and not mere location rent.

Wages.—The second important item of the accountant's cost is what he calls Labor, for which wages would be a more logical title. This item is often called Direct Labor and is supposed to include the wages of the laborers who work directly on the product. The wages of the carpenters and other laborers who work in the plant but not directly on the product are often included in Indirect Labor. The Factory Superintendent's Salary is not usually considered a part of either item and is regularly classed with Overhead. The sum of the Direct Labor, the Indirect Labor, and the Factory Superintendent's Salary will ordinarily constitute the total factory payroll.

The economist takes little interest in most of these

classifications; to him all those who work for a fixed wage or salary, be they factory hands, administrative clerks, or railroad presidents, are laborers and their remunerations are all called wages. The economist would even include the wage element in raw materials as a part of the total wage distributions of the entrepreneur. When the wage earners receive bonuses depending upon the entrepreneur's profit or are actually working under a profit-sharing scheme, a part of their wages represents a share of profits. Although the wages of the factory workers are classed with the administrative salaries by the economist, the accountant's classification has some economic interest. The factory workers give their attention to "production," that is to supply; the administrative force and the salesmen are very often primarily interested in marketing, that is, demand. The administrative force undoubtedly gives a great deal of attention to "production," in fact more than many accountants seem to realize; but the sales force is almost entirely interested in stimulating demand.[6] It should be noted that "production" is used here in the accounting but not in the economic sense. Marketing is a part of production, according to the economist.

Overhead.—Most of the items of Overhead can be analyzed into labor and materials, and, therefore, back into wages, interest, rent, and profit. This is

[6] The belief that the administrative force gives most of its time to selling rather than to "production," in the accounting sense of "production," has led to the classification of General and Administrative Expense with Selling Expense rather than with the manufacturing costs (see Chapter II, page 15).

true of Maintenance and Repairs and of Materials and Supplies. Light, Heat, and Power can be analyzed into the same elements as Raw Materials. The payments to the electric company represent the wages, interest, rent, and profit of the electric company's Profit and Loss account. Rent, Depreciation, and Taxes, which are usually included in Overhead, will be discussed in the next chapter and in Chapter XIV. The General and Administrative Expense includes one item of especial interest, the entrepreneur's salary for actual services rendered. This also will be discussed in the next chapter.

It is clear that the accountant's classification of the items of cost has but little connection with the economist's classification. The accountant is concerned with the way in which the entrepreneur spends his money and with the best method by which these expenses can be allocated to the different products produced. He sometimes even classifies the items of cost by the processes involved in manufacturing the product. Nevertheless, the accountant's cost could always be analyzed into the economist's categories of wages, interest, rent, and profit were it worth the trouble and expense.

If the purposes of the accountant's cost be considered, his classification of items will be more understandable. It has already been explained that the accountant uses cost as a basis of price and that he, therefore, attempts to find the exact amount of expense that should be charged to each unit of product.[7] One of the accountant's most important

[7] See page 16.

problems is the allocation of the items of expense to the different products manufactured when a number of products are produced at the same time. The students of cost accounting have devised elaborate systems for segregating Overhead in order to find the units costs.[8] The problems of expense distribution must be solved by the accountant and the industrial engineer, but there are certain principles that the economist should announce and which the accountant must take heed of, especially in co-product and joint-product accounting.

Joint Costs.—Before considering these principles, it is necessary to establish arbitrarily certain distinctions in terminology. If two or more products are made from the same raw material, they may be called either joint-products or co-products. Joint-products may be defined as products taken off at the same time. Moreover, one of the joint-products cannot be produced without the other. Butter and buttermilk are good examples of joint-products, because butter cannot be produced without the joint-production of buttermilk. Co-products are produced from the same raw material, but they are not necessarily produced simultaneously. Furthermore, only one of the co-products must be produced; the others need not be considered if there is no profit anticipated. For example, after gasoline is taken from crude oil, the other co-products, kerosene, fuel oil, gas oil, etc., can be manufactured, or the crude oil remaining after the extraction of the gasoline

[8] The total costs divided by the total production gives the unit cost. (See Chapter II.)

could be thrown away if there were no good market for kerosene, fuel oil, and the other co-products. Two or more joint-products might be main products or one or more of them might be by-products, according to which of the different products were the most important. Thus, if a butter producer were little interested in buttermilk and merely fed it to the hogs, butter would be his main product and buttermilk merely a by-product. However, if his butter business were no more important than his buttermilk business, they would both be main products.[9] For certain dairies, presumably, buttermilk might be a main product and butter only a by-product. All of the co-products from one raw material might be main products or all but one might be by-products.

In accounting for co-products, produced from the same raw material but produced independently, there is one obvious principle to be considered. *Any method of cost accounting that year after year results in a loss on one co-product for all manufacturers in a trade should be suspected.* Thus, it would probably be erroneous cost accounting to show a loss year after year on kerosene, if the trade continued to produce it. If a tomato canner who had been throwing away his cores, skins, and small fruit began to use such waste for making pulp and catsup, he would not continue to make these co-products, which would probably also be by-products, if the price received did not at least cover the cost, Labor

[9] If buttermilk became the main product, it would probably not be because of the churned buttermilk but rather because of the cultured skim milk.

and Overhead, of making up the pulp and catsup. If the prices received just covered the manufacturing costs, there would be no possibility of allocating a part of the tomato, or Raw-Material, cost to pulp and catsup. It might seem, therefore, that the pulp and catsup would have no Raw-Material cost. However, this would not necessarily be true. Practically, there would be three different possibilities: (1) if the sales realizations from the co-product did not cover the Labor and Overhead costs specifically needed in the manufacture of the co-product, no part of the Raw-Material cost of the principal co-product, or main product, could be allocated to the subsidiary co-product, or by-product; then obviously the manufacture of such a by-product would be unprofitable and would not be continued; (2) if the sales realizations from the co-product just barely covered the Labor and Overhead necessary in the production thereof, it would be impossible to charge much of the Raw-Material cost to such a co-product; (3) if the sales realizations on the co-product amply covered its Labor and Overhead costs, it would be necessary to allocate part of the Raw-Material cost to the co-product. Obviously, much would depend on what was in the producer's mind when he purchased the raw material. The question arises as to the method of allocating the Raw-Material cost to the different co-products.

If to the pulp and catsup there was allocated no part of the Raw-Material, or tomato, cost, and but little overhead and labor were necessary in the production of pulp and catsup, the pulp would show a

negligible cost and a large profit. The accountant, therefore, might be led to believe that the tomato, or Raw-Material, cost should be divided between canned tomatoes and pulp on the basis of weight, that is, if the cores, skins, and small fruit weighed one-eighth as much as the fruit that was canned, one-ninth of total cost of the fresh tomatoes should be allocated to the pulp and eight-ninths to the canned tomatoes. This method of allocation, which implies that a pound of cores and skins are as costly as a pound of the fruit itself, might consistently show a loss on the pulp and, thus, would violate the principle already announced.

It is evident that when the tomato canner is also a pulp manufacturer, he buys two distinct products when he buys his fresh vegetables; he is buying tomatoes for canning and cores and skins for pulp. If his most profitable line were canned tomatoes, he would attempt to buy large tomatoes so as to have a relatively small waste from cores, skins, and small fruit. However, if pulp or catsup brought a good price, he would not take such pains to avoid a crop from which "waste" of this kind could be secured. Obviously, catsup and pulp might become main products, after having been by-products. Since such considerations should, and must, enter the manufacturer's head, it is evident that he is paying two different prices for the two raw materials and that these prices bear a definite relation to the market values of the co-products manufactured therefrom. Thus, it might seem that if his total pack of canned tomatoes brought four times as much as his pack of

pulp and catsup, he should allocate four-fifths of his Raw-Material cost to canned tomatoes and one-fifth to pulp. However, a practical example will show the difficulty involved in this method of allocation.

If the Raw-Material cost per unit for two co-products was \$3.00 and the sales realizations from co-product No. 1 was \$4.00 and that from co-product No. 2 was \$2.00, it might seem that

$$\frac{4.00}{4.00+2.00} \text{ or } \frac{2}{3}$$

of \$3.00, that is, \$2.00, should have been charged as Raw-Material cost to co-product No. 1 and ⅓ of \$3.00, or \$1.00, should have been charged as Raw-Material cost to co-product No. 2. However, if it had cost \$1.20 to manufacture co-product No. 1 and \$1.10 to manufacture co-product No. 2, the Profit and Loss account would have been approximately as follows:

	Co-product No. 1	Co-product No. 2
Sales	\$4.00	\$2.00
Raw-Material Cost	\$2.00	\$1.00
Manufacturing Cost	\$1.20	\$1.10
Total Cost	\$3.20	\$2.10
Profit and Loss	\$0.80	\$0.10

Thus, this method of allocation would have involved a loss on co-product No. 2 because it would

have charged it with too much Raw-Material cost. If this co-product were a by-product, it might seem that the manufacturer should have discontinued producing it. However, if he had discontinued producing it, he would have lost even more. Although he lost $0.10 on co-product No. 2, he made $0.80 on co-product No. 1, or $0.70 in all. If he had discontinued producing co-product No. 2, the following would have been the showing of his Profit and Loss account:

Sales, Co-product No. 1	$4.00
Raw Material Cost	$3.00
[If No. 2 is not produced, all has to be charged to No. 1.]	
Manufacturing Cost	1.20
[Manufacturing Cost of No. 2 has no longer to be considered]	
Total Cost, Co-product No.1	$4.20
Loss	$0.20

Therefore, it was better to have produced co-product No. 2 than to have thrown away the raw-material left after co-product No. 1 had been manufactured. However, the method of allocation used was obviously faulty because it violated the principle announced. As long as the sales realizations from co-product No. 2 more than covered the manufacturing cost of that co-product, it was economical to produce it. From the sales the fixed manufacturing cost might be deducted and the Raw-Material cost might be allocated to the two co-products on the basis of the remainders, that is, Raw-Material cost plus Profit.

	Co-product No. 1	Co-product No. 2
Sales	$4.00	$2.00
Deduct Manufacturing Cost	1.20	1.10
Remainder	$2.80	$0.90

Then,

$$\frac{2.80}{2.80+90} = \frac{2.80}{3.70} = .75$$

75 per cent of $3.00, the Raw-Material cost, or $2.25, might be allocated to co-product No. 1 and $3.00—$2.25 or $0.75 to co-product No. 2.

	Co-product No. 1	Co-product No. 2
Sales	$4.00	$2.00
Raw-Material Cost	$2.25	$0.75
Manufacturing Cost	1.20	1.10
Total Cost	$3.45	$1.85
Profit	$0.55	$0.15

This method of allocation may seem to introduce market values into cost, the *bête noir* of the accountant. However, the total costs are included as costs with no element of profit, and only the fractions used in the division of the material costs between the two products are based on market values. The refiner should use this method of distributing the

cost of crude oil between the different petroleum products. Thus, he should determine the sales realizations from gasoline, kerosene, and fuel oil to be obtained from a barrel of crude oil, and the method outlined should be used for dividing the total Raw-Material cost between the different refined products. This allocation of material cost would be useless if the refiner did not keep an accurate record of the costs of the processes used in taking off the various co-products.

Accurate records of the costs of the various processes involved in the production of co-products, such as canned tomatoes, pulp and catsup, or gasoline, kerosene, fuel oil, etc., may be possible, but such segregations are obviously not practicable in joint-product cost accounting. For example, when butter is produced, buttermilk automatically comes into existence. Even if it were reasonable to divide the total fresh-milk, or butterfat, cost between the butter and the buttermilk merely on the basis of the sales realizations, it would be obviously impossible to determine what parts of the total Labor costs and Overhead costs should be allocated to the two products when they are both manufactured by the same process. The accountant's method of placing all the cost on the principal joint-product, butter, and of deducting the sales of the by-product, buttermilk, assumes that all the buttermilk costs, including the buttermilk profit, should be separated from the butter costs by means of the ratio of the selling prices of the two products.

The following example will show how the method

of crediting the sales of the by-product practically corresponds to a division of cost between the main product and the by-product on the basis of sales.

Assume the cost of cream necessary to make one pound of butter were \$0.71, and that on the basis of sales \$0.70 could be charged to the pound of butter and \$0.01 to buttermilk. Furthermore, assume that by some stretch of the imagination, it would be possible to separate the operating costs of making butter from the operating costs of making buttermilk; if the reader has no such imagination, a separation could be made on the basis of sales. Then, the costs might be as follows:

Costs	Butter, 1 pound	Buttermilk,* 1½ pounds
Raw Material (Cream)	\$0.70	\$0.0100
Other	.04	.0025
Total	.74	.0125
Price	\$0.77	\$0.0150
Total Cost	.74	.0125
Profit	.03	.0025

*It is assumed that the skim milk was kept by the farmer.

Obviously such a method of allocation would not be possible because it would involve a most unconvincing allocation of the operating costs of the two joint-products. Therefore, the accountant places all the cost on the main product, butter, and credits the sale of the by-product in the following way:

Total Cost of Raw Material (Butter and Buttermilk)	$0.7100
Total Operating Cost (Butter and Buttermilk)	.0425
Total Cost	$0.7525
Credit Selling Price of 1½ pounds Buttermilk	.0150
Net Cost of Butter	$0.7375

It should be apparent that whereas in the first method shown the items of cost were allocated to the two joint-products, in this method the crediting of the selling price of the by-product is really an attempt to subtract from the total costs the approximate buttermilk costs on the assumption that the buttermilk price will bear a close relation to the buttermilk cost. This method of crediting the sale of the by-product includes a profit on the buttermilk in the deduction and, therefore, reduces the butter cost by the amount of such profit. In the example given, the butter cost, estimated by the first method, was $0.74 but estimated by the second method it was $0.7375; the difference $0.0025 represents the hypothetical profit on the buttermilk. Thus, the crediting of the sale of the by-product in joint-product accounting introduces market values and profits into cost in a way that might be considered far more objectionable than the methods suggested for treating co-products. However, it is the only feasible way of treating joint-products, and is neither illogical nor entirely inaccurate.

The accountant may insist that crediting the sale of the by-product is based on the principle that whatever is made on buttermilk is so much gained and that the disposal of buttermilk tends to reduce the

cost of butter. However, it should be apparent that the selling price of buttermilk has nothing to do with the cost of butter, and that the deduction is justified only on the assumption that the buttermilk price will correspond roughly to the buttermilk cost and that its subtraction from the total cost will leave the actual butter cost.

CHAPTER X

THE DOUBTFUL ELEMENTS OF ACCOUNTING COST

It has been explained that practically all accountants agree that certain elements enter into accounting Cost of Sales as for example, Raw Materials, Depletion, Wages, Rent actually paid, the miscellaneous items of Factory Overhead, Depreciation, General and Administrative Expense, and Selling Expense. The Income and Excess Profits Taxes are usually excluded, although for some purposes, they may be included in cost. Interest is usually excluded, although interest actually paid or interest on short-term loans, lasting for less than the production period under consideration, are often considered cost items. In this chapter, the following items will be discussed: Interest, Rent, the entrepreneur's salary, and Depreciation. The treatment of Outward Freight, of Discount on Sales, and of Bad Debts will be postponed for Appendix II. The complete discussion of Interest as a cost item will be given in Appendix I; only the outline of the theoretical aspects of the problem will be presented in this chapter. The discussion of taxes in cost will be postponed for attention in Chapter XIV and Appendix II. This chapter will be limited to a discussion of the doubtful cost items, which are of general economic interest.

Interest in Cost.—The accountant's most logical defense for the exclusion of Interest, whether on bonds notes, or on the entrepreneur's own capital, and Rent, unless actually paid to some other person than the producer, might be based on the fact that he is not keeping a cost for an entrepreneur but for a person or group of persons, who are not only entrepreneur but also capitalist. The accountant might maintain that this producer, or entrepreneur—capitalist, can only consider as his costs his actual disbursements to others Thus, such a producer could not include in cost an interest charge, payable to himself as capitalist. Furthermore, inasmuch as the accountant refuses to allow interest on bonds or on notes, actually paid to outside capitalists, it might seem that accounting cost represents the expenditures of the entrepreneur and capitalist combined, and that what the accountant ultimately obtains by subtracting cost from price is Gross Profit which represents a combination of economic profit and economic interest. The accountant would then seem to be making up his statements for the bondholders and noteholders, and for the banks, as well as for the stockholders. The accountant would probably justify this combination of interest and profit by insisting that there is never a pure entrepreneur and that the entrepreneur and capitalist are always combined in the same person or persons. The fallacy in this contention and the misconceptions arising therefrom will be discussed in Chapter XII and in Appendix I.

The accountant's best theoretical reason for not finding the pure entrepreneur's cost is that when the

entrepreneur is also capitalist, his cost would have to include interest on his capital. Thus, in with his expenditures there would seem to be included a payment due the entrepreneur himself, although due him as capitalist and not as entrepreneur. Accountants have argued that nothing should be included in cost except what is actually paid to others than the person or persons for whom the cost is being computed. If the producer, that is, the entrepreneur—capitalist, can only consider, as cost items, disbursements to others, a salary paid the entrepreneur, when he works, would not be a legitimate part of cost. Yet, every accountant allows such salaries in Administrative Expense. The inclusion of the entrepreneur's salary and the exclusion of interest imply that accounting cost is the sum of disbursements of the entrepreneur-capitalist, plus a payment to himself as laborer if he works. The entrepreneur's wage represents his own sacrifice cost; yet it is thrown in with his actual disbursements to others. The inconsistency of excluding interest on the entrepreneur's investment, because he pays it to himself, and of including at the same time a salary, paid to himself, should be obvious.

The inclusion of sacrifice cost along with money disbursements is not so illogical as it may seem. The laborer's sacrifice cost is a consideration of no direct interest to the accountant, who is only interested in what the entrepreneur has to pay, that is, wages. Whether the laborer's productivity would warrant a higher wage is no concern of the accountant. The accountants, however, are always considering the

entrepreneur's sacrifice costs. Therefore, why should they not include in costs his sacrifices when he works or when he employs his own capital. A true entrepreneur's cost, then, should include his salary when he works and an interest charge when he employs his own capital. Whether the accountant should attempt to find the entrepreneur's cost or the entrepreneur-capitalist's cost is a problem to be further discussed in Chapter XII and Appendix I.

Rent as a Cost Item.—Accountants allow Rent in cost if it is actually paid, but if the producer owns the land on which he operates, he is not allowed to include an estimated charge. It must be evident from what was said on page 23 in Chapter III that, from the producer's point of view, land is like any other capital goods, and that when the entrepreneur discontinues renting and purchases a piece of property, his cost is no longer a rental but the combination of an interest charge on the capital which made the purchase possible together with taxes and insurance. There certainly can be no objection to the inclusion of Rent in cost, but it seems inconsistent to consider rent actually paid as a part of cost when interest actually paid is not included. The exclusion of Rent from cost, however, would limit the accounting conception of cost still further and would make it the entrepreneur-capitalist-landowner's cost. A true entrepreneur's cost would include not only the rent actually paid but also an interest charge on the capital investment plus the insurance and taxes actually paid, rather than an estimated rent on the property owned.

One reason, sometimes urged even by economists, for the exclusion from cost of interest and rent due the entrepreneur is based on a confusion of capital and capital goods. If a producer has such a high cost that he suffers a loss, it is customary to say that "he earns nothing on his capital" or that "his capital earns nothing." What is meant is that his capital goods earn very little or nothing. Capital is only indirectly productive, that is, as it is transferred into capital goods. As a matter of fact, his laborers may not have earned their wages, or prices may have been demoralized; his capital goods, however, may have been very effective and their specific productivity may have more than covered the interest charge.[1] Inasmuch as bills and laborers are paid first, it is often believed that what is left is earned by the capital or capital goods. This is obviously fallacious. What is earned by the capital goods need not coincide with the interest that is paid on capital. The laborer's productivity is not always exactly equal to the wages he receives. If a laborer does nothing but receive his wage, his wage is nevertheless a cost. Thus, even though the capital goods earn nothing, interest is not necessarily obviated. If capital is badly invested so that the capital goods earn very little, the entrepreneur, nevertheless, must include interest in cost even if he shows a loss. Whenever laborers fail to earn their wages or the productivity of capital goods is less than the interest charge, the entrepreneur suffers. Thus, capital

[1] See Chapter IV.

demands interest even though the capital goods earn little or nothing.

When laborers fail to earn their wages, the entrepreneur attempts to discharge them or reduce their pay. It must be conceded that the entrepreneur cannot immediately dispose of his capital goods if they are not efficient. When he has interest to pay on the capital he borrowed to procure them, this interest is obviously a part of his cost as long as he continues to pay it. It makes no difference how valueless his plant or machinery may have become. If he owns the capital that is represented by the capital goods, the interest charge is due him as capitalist.

Depreciation as a Cost Item.—Although practically all of the representative accountants have come to consider Depreciation a cost item, some manufacturers have not yet learned to include it. It was stated on page 85 that when the entrepreneur owns capital or has it transferred to him, he uses it for two purposes: (1) for fixed investment that is supposed to last for a number of production periods; (2) for use in what are called current costs, such as materials, wages, rent, interest, etc. Materials like machinery and plant are capital goods but there is one difference between them; materials are used in one production period, whereas machinery and plant are supposed to last for many periods. However, a part of the machinery and plant are wasted in each period; therefore, a depreciation charge for this wastage is included in each production period. Depreciation might be defined as the part of the fixed capital goods used up in production. The

depreciation and the fixed capital goods, of which it represents a part, can be analyzed, just as materials are, into wages, interest, rent, and profit.[2]

There is another question concerning the inclusion of Depreciation in accounting cost. Depreciation differs from the cost of Raw Materials in one important respect, namely, the cost of Raw Materials is actually paid to others whereas the entrepreneur, as owner of the capital goods, seems to be putting by Depreciation for himself. But Depreciation is, after all, not paid to him but to others, to those from whom he originally purchased his fixed capital goods. But they probably demanded payment in advance and he had to borrow or use his own capital to consummate the purchase. Therefore, Depreciation becomes an obligation that he must live up to in order to keep faith with the capitalist. In the final analysis, however, Depreciation is the cost of that part of the permanent capital goods wasted in a production period, and as a cost item should be classed with Raw Materials.

Sometimes certain practical objections are urged against the inclusion of Interest in cost. Although they will be discussed in Appendix I, it seems necessary at this point to mention them. It is said that

[2] Thus, Depreciation is an accounting, but not an economic, cost. Economic cost is measured by the sacrifices made in carrying on production. When capital goods are produced, the economic costs are the efforts of the laborers, the sacrifices of the capitalists and landowners, and the skill and services of the entrepreneur. The depreciation of the fixed capital goods represents the using up of a portion of these embodied economic costs, but to count depreciation as an economic cost would merely represent a duplication of these embodied economic costs. They were counted once when the capital goods were produced, and should not be recounted when the capital goods are used up.

it is hard to determine what interest rate should be allowed on the entrepreneur's own capital and that it is often difficult to determine what his capital is. The method of determining capital will be discussed in Chapter XI and the difficulties involved will be set forth. It will be shown in Appendix I that the determination of the rate of interest is not so difficult as it seems. But could it be any more difficult to determine a proper interest rate than to fix a proper rate of depreciation? Depreciation is usually found by estimating the probable life of the capital goods that are being depreciated and by charging them off each year at the same rate until the accumulated depreciation equals the original cost of the investment. This method of determining depreciation is both fallacious and inaccurate. The actual amount wasted should be charged off, for instance, if a machine was half worn out after its first year, one-half should have been charged off even though by great care its lifetime was subsequently prolonged. Furthermore, when the entrepreneur works and pays himself a salary, he estimates his own worth. There is no more difficult estimate to make than this one, and it is probably one of the least dependable. When the entrepreneurs want to hide excessive profits, this category is the usual receptacle.

CHAPTER XI

CAPITAL, CAPITAL GOODS, AND INVESTMENT

Uses of Capital.—Inasmuch as so many of the problems that have been presented depend upon the definition of capital and the distinction between capital, capital goods, and investment, it seems necessary to amplify what has already been said about these concepts in some of the earlier chapters. If Interest is to be included in cost, on what should this Interest be calculated? It was explained on page 25 in Chapter III that capital represents the postponed claims of potential consumers expressed in terms of money. After capital has been transferred to an entrepreneur, it might be called productive capital. It was stated that the entrepreneur uses this productive capital in order to obtain fixed capital goods and to pay current expenses; the capital goods legally belong to him and not to the capitalist. The entrepreneur, then, uses capital for three different purposes: first, for fixed investment, such as land, buildings, and machinery; second, for materials to be used up in one production period; and third, for paying wages, rent, and interest to those who are associated with him in production. Thus, all capital is not transferred into capital goods, such as fixed investment or materials; a part is used to pay wages, rent, interest.

If consumers paid for goods before they were produced, rather than afterwards, the entrepreneur would not need capital for capital goods except for the fixed investment. Entrepreneur's cost covers the entrepreneur's entire expenditures for materials used up in the production period together with his outlay for wages, rent, and interest, but it is only expected to cover the depreciation on the fixed investment and not the entire cost of such investment. If the price the consumer pays covers these costs, and if prices were paid in advance, the entrepreneur would have all the capital necessary to pay these expenses, but he would not have enough to pay the entire cost of the fixed capital goods, as price is supposed to cover only the depreciation thereon. When the entrepreneur sells his goods he can often cancel his short time obligations; hence he is not always obliged to pay interest on all of his borrowed capital for the entire production period.

The Need for Determining Capital.—It is evident that the entrepreneur's cost includes not only the wages and rent paid and the capital goods used but also the interest on the capital out of which the entrepreneur makes his payments and with which he obtains his capital goods. The determination of the amount of the capital on which interest should be paid is a problem of great importance. It is often urged that the difficulty of the problem stands in the way of the inclusion of interest in cost. But this argument has no value when it is remembered that even if interest is not allowed in cost, the producer

usually calculates his "investment." As a basis on which to measure his return or for the determination of the capital used for certain of the profit taxes, the calculation of investment is necessary. Some cost accountants refuse to consider the problem of investment, and seem to think that the cost, with no allowance for interest, is all that concerns them. It should be obvious that the comparison of the costs of the various plants of a company would be meaningless if in some of those plants the land and buildings were owned and in others rented, because the accountant allows rent actually paid as a cost item but he would not allow interest on the capital invested in the owned plants. Even if interest were not allowed as a cost item, it would be necessary to have the investments in the various plants as well as the costs for a comparison of their efficiencies. Thus, if there were two plants operating under identical conditions, except for the fact that the one was owned and the other rented, the following would be the costs thereof:

	Cost per unit for Rented Plant A	Cost per unit for Owned Plant B
Raw Material	$1.00	$1.00
Wages	.50	.50
Rent	.20	.00
Overhead, etc.	.40	.40
Total Cost (excluding Interest but including Rent actually paid)	$2.10	$1.90

Plant B would seem to be lower in cost than Plant A, but this would not really be true because Plant A might have an investment of $5.00 per unit of product and Plant B would probably have an investment of $9.00 per unit. Plant B's larger investment would be explained by the fact that the land and buildings were owned whereas in Plant A they were merely rented. Then, even if Interest were not included, the investments, per unit, should be shown as follows:

	Cost per unit and Investment per unit for Plant A	Cost per unit and Investment per unit for Plant B
Total Cost	$2.10	$1.90
Investment	5.00	9.00

Obviously this method of presentation would be less satisfactory than the following:

	A	B
Cost (minus Interest)	$2.10	$1.90
Interest (at 5 per cent)	.25	.45
Total Entrepreneur's Cost	$2.35	$2.35

The Balance Sheet.—The Balance Sheet is used to determine the capital or "investment" on which Interest or "return" is computed. The following Balance Sheet represents a condensation of the form shown in Chapter II:

Assets	Liabilities
1. Cash	8. Bills, Notes, and Accounts Payable
2. Notes and Accounts Receivable	9. Other Current Liabilities
3. Inventories	10. Bonds and Mortgages
4. Other Quick Assets	11. Preferred Stock
5. Outside Investments	12. Common Stock
6. Fixed Assets	13. Surplus
7. Deferred Charges	

Inasmuch as capital is the basis of interest, the liability side of the balance sheet is probably the better side to attack. However, the asset side, which includes the capital goods, should not be neglected.

If a business were assumed to be starting its corporate life, the capital obtained through the sale of Bonds (10) and Stocks (11 and 12) would probably be transferred into the Fixed Assets (6). Some of the capital obtained in this way might be used for buying materials or paying current expenses; in that event, a part of the permanent capital (10, 11, and 12) would be represented here by Inventories and Cash (1 and 3). However, it might be better to finance the materials and expenses represented by the fluid assets (1 and 3) through short-term notes, which could be renewed if necessary. Many firms renew short-term notes so often that they practically become permanent capital. It may be noticed that the Surplus (13) has not been considered. The Surplus belongs to the common stockholders. When a business begins its corporate life, there is probably no Surplus. However, if some of the common stockholders had paid more than par for their stock,

there would be a Surplus because the Common Stock would be shown at its par value.[1]

The Balance Sheet is a picture of the business at any one time. In order to get a true picture of a business for a year a Balance Sheet would be needed after every transaction. As production goes on, there is a constant flux on the asset side: Raw Materials are taken out of the Inventories, expenses are paid out of Cash, the Fixed Assets are depreciated; then, as the finished products are sold, the Cash or Bills Receivable are increased. While these changes in the various items are taking place, the total value of the assets may not seem to change. However, if the finished products are sold for more than cost, the total assets are increased. In that event, there must be a corresponding increase on the liability side, which is registered in Surplus. There is another way in which the value of the total assets may seem to be increased without the bringing in of new capital or without the realization of profit on sales. If the capital goods, that is, the assets, acquire an increased market valuation, the capital may seem to increase. The entrepreneur, the stockholders, would seem to have acquired an increment of value; if this increment of value were allowed in an increased valuation of the assets, it would probably be offset by an increase in the Surplus.[2]

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[1] Thus, if a company had sold 100,000 shares of common stock for $110 per share, the common stockholders would have supplied the business with $11,000,000 capital. If the par value of the stock were $100 per share, the Common Stock on the Balance Sheet would be $10,000,000 and the Surplus $1,000,000.

[2] Unless new common stock were issued.

The Valuation of Capital Goods.—At this point it is necessary to consider the different reasons which might explain an increased valuation of the capital goods.

First, capital goods may seem to increase in value because of some peculiar outside demand. If a manufacturer had been offered twice his purchase price for a piece of the land adjacent to his factory, he might have been tempted to revalue this piece of land. However, if he did not actually sell it, he had no right to revalue it on the basis of an opportunity price. Although its specific productivity in his business might not have warranted such a revaluation, he might not have been able to part with it without impairing his business. As an entrepreneur, he had a legal claim to the piece of land but his claim to its apparently increased value was unjustified until he actually sold it. It appears, therefore, that the entrepreneur's claim on a hypothetical increment of the increased value of the capital goods is of a somewhat different nature from the capitalist's capital, which is originally a claim on consumption goods. The entrepreneur cannot claim consumption goods until he has actually sold the capital goods, and he cannot claim them legally until he has satisfied the capitalist.

Second, the value of the capital goods may seem to exceed the value of the capital because of their productivity. This may come about in one or two ways: first, the entrepreneur may transfer the capital into capital goods of a productivity far greater than the interest he has to pay; second, he may improve

the capital goods, originally purchased, so that their productivity is thereby increased. In both cases the seeming productivity of the capital goods is actually their productivity plus the productivity of the entrepreneur. However, the entrepreneur cannot claim that their value as capital goods has increased until he sells them. Their greater productivity results in a greater profit for him; thus, their apparently increased value results in larger profits rather than in a larger capital valuation and more interest.

Third, capital goods may acquire a greater monetary valuation in a period of increasing prices. A piece of land purchased for $1,000 in 1900 might have produced 10,000 units of product worth in that year $100. To-day, the same land might have a generally recognized valuation of $2,000, but the 10,000 units of product would probably bring $200. The farmer who bought his land 30 years ago would to-day get twice as much from it as in 1890. It might seem that the land should be revalued at $2,000. However, the increased productivity, in money terms in this case, is all that the entrepreneur can consider until he sells the land and receives the $2,000 for it, and the increased productivity is profit, not interest. When a business sells a 5 per cent bond for $1,000, the bondholder, the capitalist, continues to receive $50 a year even in a period of rising prices when the capital goods may be earning $100 a year. The difference, the other $50, is profit, not interest. This principle may seem to put the older business, which purchased its capital goods with a

smaller amount of capital, at a disadvantage when compared with the new business. However, it depends upon the purpose for which the capital is being determined whether the principle is of advantage or disadvantage to the business. For the purpose of the Income Tax, a large capital seems desirable; but if the business would show its true profit, it should not revalue its assets.

In short, when capital is invested in capital goods, they cannot be considered as having a capital value different from that of the capital, which made them possible, until they are sold and are no longer capital goods. If they remain capital goods, they have no value except that derived from their productivity, and they can have no independent valuation except their original cost, which represents the invested capital.

The valuation of the Balance Sheet items at original cost will give the original amount of capital invested, and this capital is the only proper basis for the calculation of interest. When capital goods take on an apparent social valuation in excess of the value of the capital, the entrepreneur seems automatically to become a capitalist and to have a claim on the increased valuation; but he has no real claim to any surplus value in the capital goods until he sells them, when he is no longer entrepreneur but capitalist. *If it would be remembered that it is capital and not a valuation of the capital goods that is the basis of interest, no difficulty would arise.* The original cost of the capital goods, which might have been less or more than their value at the time of their pur-

chase, corresponds to the amount of the capital invested in the business.

Although no increase in the value of the capital goods may be allowed on the Balance Sheet, it should be noted that even if the stockholders own little or no capital at the beginning of an enterprise, they become capitalists as profit is realized. The entrepreneur who keeps his profit in the business has as much right to consider that he has foregone consumption as the capitalist. Thus, the entrepreneur, even if he did not supply any capital at the inception of the business, becomes a capitalist if he does not withdraw his profit. Profits and interest left in the business represent the stockholders' postponed claims to consumption goods and are, therefore, capital.

Thus far, the Balance Sheet has been considered only for the purpose of determining the investment or capital on which interest can be calculated. It might seem that if the entrepreneur were showing his Balance Sheet to the bankers or if he were contemplating selling the business, he would want to capitalize the earning power. If the capital of $1,000,000 had been invested 20 years ago and if the capital goods to-day have a market valuation of $2,000,000, which could also be justified by a Gross Profit, interest plus profit, of $200,000, the entrepreneur might be loath to have his Assets valued at the original cost of $1,000,000. However, no business should be judged merely from the Balance Sheet; the Profit and Loss accounts for a series of years should supplement the statement of Assets and Lia-

bilities. Obviously, the Profit and Loss account would show the skill or luck of the entrepreneur, whereas the Balance Sheet should merely show the actual cost of the capital goods. A capitalization of earning power would be attributing to the capital goods a productivity that might rightfully be the result of what the entrepreneur actually accomplished or, at least, obtained.

The reasons usually given for revaluing capital goods for Balance Sheet purposes might be summarized as follows:

1. A particular piece of property or building may take on an increased valuation because of some outside demand. However, as far as the business, for which the Balance Sheet is made, is concerned, this portion of the capital goods is no more valuable after the outside demand than before. If the high price offered does not cause the sale of the property, as it may be indispensable for the conduct of the business, the outside demand would probably be met from some other source, and a few months later the particular piece of property under consideration might have no such opportunity value. However, if a piece of property continues to have a high opportunity value, but cannot be sold by the business for which the Balance Sheet is being made, this fact can be set forth for the benefit of the banks from which the business may want to borrow. However, the revaluation cannot be justified from the point of view of the business unit, that owns it.

2. A part or all of the capital goods may become more valuable because their productivities may have

increased due either to (*a*) the entrepreneur's, or his salaried agents', clever use of the capital goods, or to (*b*) the general rise in prices, which is reflected in higher prices for capital goods and for the product as well as in greater profits. In both examples, (*a* and *b*), the greater productivity is reflected in a greater return on investment, to use the accountant's terminology. This return is a combination of interest and profit. It is obvious that the increased return is due to larger profit because the interest is stationary and represents a certain fixed portion of the original capital. A revaluation of the capital goods on the Balance Sheet would seem to increase the interest charge and to reduce the profit. Thus, such a revaluation could be used to hide excessive profits, but it would be fallacious because it would falsify the basis of the interest charge. If business firms were to revalue consistently on the basis of productivity, every firm could fix up a Balance Sheet so as to show the same percentage of return, interest and profit, as every other firm.

Goodwill.—The problem is somewhat complicated when a corporation is to be sold to another corporation. In the next chapter a type of incorporation will be referred to, the *modus operandi* of which should be described here. If the stockholders of a company had invested $15,000,000 in original capital and reinvested profits the Balance Sheet might be as follows:

ASSETS	
Buildings, Machinery, Inventories, Cash, etc.	$15,000,000
LIABILITIES	
Common Stock and Surplus	$15,000,000

This business might have been earning about $5,000,000 in interest and profit a year, or 33⅓ per cent on the invested capital. The stockholders would hardly have been satisfied to take $15,000,000 in cash for this business, which represented a $15,000,000 investment and which was earning 33⅓ per cent thereof. In many instances the stockholders sell their business to a newly created corporation, for an issue of $15,000,000 worth of seven per cent preferred stock and $40,000,000 worth of common stock. Then the new corporation's Balance Sheet might be as follows:

ASSETS	
Buildings, Machinery, Inventories Cash, etc.	$15,000,000
Goodwill	40,000,000
LIABILITIES	
Seven per cent Preferred Stock	$15,000,000
Common Stock	40,000,000

The "Goodwill" would be considered justified by the productivity or earning power of the corporation. After the seven per cent dividends on the preferred were paid, there would still be $3,950,000 or $5,000,000 minus $1,050,000, left for the common stock, that is 9.8 per cent. The original stockholders of the first corporation, then, would sell the preferred stock but they would probably hold the common stock. Those who bought the preferred stock in the market would be supplying the capital, or rather they would be allowing the original stockholders to withdraw their $15,000,000 investment. The preferred stockholders would then represent the outside capitalists and the original common stockholders, who had been entrepreneur-capitalists,

would now be pure entrepreneur, as owners of the $40,000,000 common stock, which represented no investment.

The capital invested in the second corporation would be $15,000,000, no different from that invested in the first; yet, the assets of the second company would show $40,000,000 Goodwill, in addition to the $15,000,000 original cost of the capital goods. If Goodwill is shown clearly on the Balance Sheet, there is no harm done. However, the accountant should realize that when he is computing the capital invested, he should add the common and preferred stocks to the bonds and other interest-bearing liabilities *but he should deduct the Goodwill on the asset side.* It is far easier to deal with this kind of reappraisal than with the revaluations of specific capital goods, which are not so easily detected.

When a corporation spends money perfecting a patent or in developing a trade-name through advertising or otherwise, this investment is often used to justify the "Goodwill" on the Balance Sheet. Thus, the expenditure of a few thousand dollars is often considered justification for a Goodwill item of millions. The Balance Sheet should show the actual amount of capital so expended, as it is a legitimate addition to investment, but the amount of Goodwill added as a result of the earning power should be shown separately so that it will not be included in the invested capital.

If the holders of the $40,000,000 of common stock afterwards sold a quarter of their holdings to outside capitalists, and the $10,000,000 of capital sur-

rendered were invested in the corporation, some of the Goodwill might be squeezed out, provided the controlling stockholders did not demand notes for the $10,000,000 of their capital.[3] Then the Balance Sheet would be as follows:

Assets		Liabilities	
Old Assets	$15,000,000	Preferred Stock	$15,000,000
New Assets	10,000,000	Common Stock	40,000,000
Goodwill	30,000,000		

Short-Term Notes.—If $1,000,000 of capital had been secured by the sale of bonds and stocks, and if $100,000 had been borrowed from the banks at five per cent for the three months March to May, the actual interest paid on the note is considered by some accountants to be a part of cost. Then, if cost were $4,000,000, excluding all interest, the total cost would be $4,005,000 and the investment $1,000,000. The second possible way of treating these figures would be to consider the cost $4,000,000 and the investment $1,025,000, as already explained in the foregoing paragraphs. The inclusion of interest in cost would obviate the difficulties of both methods. If there had been a $400,000 six per cent bond issue, and if the stock had been sold when the interest rate for long-term investments of the same amount of risk was five per cent, a total interest charge of $59,000 ($5,000 on the three-months' note, $24,000 on the bonds, and $30,000 on the stockholders' investments) could have been added to the cost, $4,000,000, and the problem of investment would have been obviated.

The accountant uses the term "investment" in-

[3] This would be unusual but not improbable.

stead of "capital." He says, for example, "a producer should have a return on his investment" or "interest on investment should not be included in cost." He sometimes means by "investment" that part of the capital used through the entire year, that is, the capital represented by the fixed capital goods, such as lands, buildings, and permanent machines. That part of capital that goes into materials, wages, rent, and interest may be neglected by him if these expenses are financed through short-term notes, that is, notes running for less than a year. Some accountants include interest on short-term notes in cost and thereby dispose of them. Those who believe in the pure entrepreneur's cost and who consider interest a cost item will feel that this is a step in the right direction but they will have to admit that it is not consistent with the exclusion of other interest from cost. If the accountant insists upon a consistent entrepreneur-capitalist's cost, short-term notes would have to be included in the capital or investment along with the bonds. However, inasmuch as they would not run through the entire production period, an adjustment would have to be made. Thus, if a company borrowed $40,000 at six per cent for three months, the loan might be considered identical with a year's note for $10,000 at about the same rate of interest.

The Basis of the Interest Charge.—If Interest is to be treated as a cost item, it should be apparent that from no one Balance Sheet can the capital used during a production period be determined. The short term notes may have been borrowed in March and

paid off by November; thus, no evidence of their existence could be found on the Balance Sheets at the beginning or at the end of the year. There is another reason why neither the first nor the last of the Balance Sheets will give the capital invested accurately. The first and last Balance Sheets differ ordinarily only by the amount of profit earned on the sale of goods.[4] If the business is a corporation, this profit is really the interest and profit of the stockholders. The profit is usually earned in varying amounts all through the year. Thus, some parts of the total profit of a year would be in the business for almost 12 months, whereas some parts would be earned in December and would be capital for less than a month. Unless some special condition existed one-half of the total profit could be considered the average reinvested profit to be added to the capital.

In order to determine the interest that should be added to cost, the Balance Sheets at the beginning and at the end of the year, together with a record of interest actually paid on short-term notes running for less than a year would be necessary. The interest on short-term notes and on bonds and the so-called dividends on the preferred stocks could be added to cost, and no estimates would be necessary. Then, assuming that the capital goods, the assets, were valued at original cost, the stockholders' capital could be determined from the first Balance Sheet, and the profit earned and interest accrued for the stockholders could be determined from the last.

[4] New capital or the sale of the capital goods, assets, might explain a larger capital on the last Balance Sheet than on the first.

It should be apparent that the interest rate to be charged on the stockholders' capital should be the interest rate prevailing for that kind of investment at the time the capital was invested, and that the rate to be charged on the profit and interest earned during the year should be at the rates prevailing at the time the profits and the interest were realized. Obviously, when a bondholder invests his money in five per cent bonds, he must always expect a five per cent return, no matter how the interest rate may change subsequently. When the stockholder invests his capital, he should have thereafter the interest rate for long-term investments prevailing at the time he invested.

The Bills Payable, which bear no interest, should be separated from the Notes Payable and should not be considered a part of the corporation's capital. These bills represent the capital of other entrepreneurs, but the entrepreneur for whom the capital is being determined does not have to pay interest on them, and, therefore, should not include them in his capital.

A summary of the steps to be taken in order to determine the interest charge and the basis on which estimated interest should be charged may be given as follows:

The dividends on the preferred stock, assuming that the preferred stock is of the kind already described, should be added to the interest on the bonds and short-term notes, that is, on all interest-bearing paper, and this total of interest paid or payable should be added to cost.

The Balance Sheet as of January 1 and of December 31 should be obtained with all the assets valued at original cost plus the improvements represented by actual capital investment.

Then, from the Common Stock and Surplus, the Goodwill on the asset side should be deducted, if any Goodwill not represented by actual investment is included.

The remainder will represent the common stockholder's capital on which interest will have to be estimated. If the common stock was all sold when the company was incorporated, the accurate amount of capital represented by the original investment will be available. Then, this amount should be multiplied by the interest rate prevailing for investments of this kind at the time of incorporation of the company.

The profits and interest earned in former years, that were left in the business, will be shown in the Surplus of the first Balance Sheet. If the rate of interest changed materially during the years between incorporation and the date of the first Balance Sheet for the year under consideration, some allowance will have to be made for the rate to be charged on the accumulated undivided profits, that is, the Surplus.

The profits, or dividends, earned during the year under consideration will have to be considered as well as those earned in former years. It has been suggested that the year's profit, which usually is the difference between the Surplus of January 1, and that of December 31, should be cut in half and

multiplied by the rate prevailing during the year unless monthly Profit and Loss accounts can be used to determine this figure more accurately.

There is one item on the asset side the valuation of which is much disputed. It has been explained that all the capital goods used in the business should be valued at cost, since this valuation represents the capital invested. The inventories of manufactured goods, which are capital goods on the asset side, should accordingly be valued at their cost of production and all the inventories of raw materials should be valued at the prices paid for them. Although accountants attempt to value inventories at cost both on the Profit and Loss account and on the Balance Sheet, they usually value them at the market price if market price is below cost. This procedure is followed because of its safety; the accountant believes that although it may have cost $1.00 to produce a certain commodity, if its market value is $0.80 it would be dangerous to allow the stockholders to think that they have an asset worth 25 per cent more than its market value. The reader who has given consideration to this chapter should realize that the stockholder should never believe that the Balance Sheet tells the worth of his business at any time. If Inventories are to be revalued, why not the fixed assets? If the fixed assets cost $1,000,000, they are so valued on the Balance Sheet, even though their true market value at the time of their purchase or subsequently might have been as small as $400,000. Obviously, if the Balance Sheet is to be used to show the invested capital, Inventories must be valued at

cost whatever their market value may be at the time the Balance Sheet is drawn.

But the accountant may object that this is not the only or even the principal purpose of the Balance Sheet. The Balance Sheet is supposed to show the value of the business on a certain date. If the banker picks up the Balance Sheet, he will be misled if Inventories are valued at cost when their market value is below cost. The accountant may insist that the banker is not so much interested in the fixed assets as in the current ones, he wants to be shown a conservative value of the Inventories, Receivables, and Cash so that he may have some idea of how readily the corporation could pay off his loans if the necessity should arise. Obviously, it would be bad accounting principle to value the Fixed Assets on one basis and the Current Assets on another. Furthermore, a Balance Sheet would have to be made for a particular moment and might be useless soon thereafter. For the banker's enlightenment a note could be appended to the Balance Sheet with regard to the value of the Current Assets, particularly the Inventories, but on the Balance Sheet original cost should prevail.

The valuation of the Inventories on the Profit and Loss account in determining the Cost of Sales is also disputed by accountants. It is sometimes argued that "safety first" would involve cost or market value, whichever happened to be lower. As a matter of fact, the following simple example will show that at times it might be more conservative to use cost even when higher than market value:

		Inventories at Cost	Inventories at Market
Sales		$1200	$1200
Cost of Production		1000	1000
1st Inventory (10 units):			
Cost	$1.00		
Market Value	.50	+10	+5
Total	.....	$1010	$1005
2nd Inventory (5 units):			
Cost	$2.00	−10	−7.50
Market Value	1.50		
Cost of Sales	.....	$1000	$997.50
Profit	.....	$200	$202.50

Thus, the valuation at cost showed a smaller profit and is, for that reason, more conservative in this example than the lower market valuation would have been. However, the valuation at cost should not be justified by any such reasoning. The reason why Inventories should be valued at cost rather than selling price on the Profit and Loss account is connected with the fact that the accountant is forced to consider an arbitrary fiscal period such as a year. An example will serve to illustrate the point. If 10,000 units of a commodity were produced in November and December of 1916 at a cost of $0.10 per unit and if 100,000 units were produced during the year 1917 at $0.20 per unit, the total cost for the period from November 1, 1916, to January 1, 1918, would be $10{,}000 \times \$0.10 + 100{,}000 \times \$0.20$, or $21,000. If the 10,000 units produced in 1916 had not been sold by

the end of that year, they would have represented an Inventory. Now, if this Inventory had been sold in 1917, the profit realized would have been the difference between the cost of $0.10 and the selling price, which might have been $0.20. Thus, when the accountant adds the money Inventory to the year's cost, he is really adding costs of two periods, the period November-December, 1916, and the period January to December, 1917. The same reasoning applies to the closing Inventory. If there are certain units left over after the end of the year 1917, the cost of those units should be deducted from the total costs expended, that is, the costs of the period November 1, 1916, to January 1, 1918, in order to leave the costs of the units disposed of by the end of 1917.

CHAPTER XII

PRICE, PROFIT, AND COST

Profit and the Entrepreneur.—In all that has gone before, the entrepreneur's costs have been discussed but the treatment of his share, profit, has been postponed for this chapter. After the accountant has determined the cost of producing a certain article, he needs only to subtract this cost from the selling price in order to determine the entrepreneur's profit, assuming that the accounting cost is the entrepreneur's cost and includes interest. When the accountant has defined cost properly, his task seems ended. However, if past costs and estimated future costs are being used to determine selling prices, the accountant may be called upon to fix what he considers a proper margin of profit to be added to cost. It is evident that although the accountant may decide on what should go into cost, he cannot determine in a competitive system what price or profit, the difference between price and cost, is actually going to be. If price is fixed by competition, no one producer can sit at his desk and fix his price or profit independently. But it is probably more dangerous for the accountant to misunderstand the nature of profit than any of the other economic categories.

It was stated on page 45 in Chapter IV that profit is the share of the entrepreneur, but just who the

entrepreneur is and just what he does has not yet been completely discussed. In a private business this function is vested in the ultimate "boss," and in a corporation in the stockholders. In Chapter III it was explained that the entrepreneur controls the business unit; actually only one part of the entrepreneur, the controlling stockholders or directors, has any voice in shaping its policies. It is often thought that the entrepreneur must render actual personal service either in organizing or directing, and that he is really a high type of laborer. As a matter of fact, his service is never active; if he works, he receives a salary and is a laborer.

The Pure Entrepreneur.—Inasmuch as most of the entrepreneurs are also capitalists (the partners in an unincorporated business and the stockholders in a corporation, who furnish it with capital when they buy its stock) it is often assumed that the function cannot be vested in a man or group of men unless he or they be also capitalists. It seems worthy of consideration that during the last decade a type of important industrial corporation has sprung up in which the capitalist and entrepreneur functions are often separated, at least temporarily.[1] Some of the most important of our private businesses are being refinanced in a way that has already been described on page 124 in the preceding chapter. The original owner sells his business to a newly created corporation and receives for it an issue of preferred stock, equal in value to the capital in the business, and an

[1] See Kemper Simpson, "The Capitalization of Industrial Good Will," John Hopkins Press.

issue of common stock, behind which is "Goodwill" or "water." The preferred stock, then, is sold in the stock market by the original owners, who are usually expected or even required to hold the common stock. The preferred stockholders, thus, replace the capital withdrawn by the original entrepreneur-capitalist; they become the capitalists but he remains the entrepreneur because he holds the common stock. He has sold his capital and is a pure entrepreneur until he puts back some of his profits in the business.

It might be maintained that the capitalists allow him to be the entrepreneur because of his ability as a laborer and that he is really a laborer-entrepreneur. Some of these common stockholders withdraw from active participation in the business and merely control its policy. Yet, they always own its product and its capital goods. The capitalist, it must be conceded, commonly expects the entrepreneur either to invest some of his own capital or to apply a high degree of executive ability and to render personal service. The capitalist wants assurance that the entrepreneur will be able to meet his obligations in the event of dissolution, should the capital goods depreciate in value. Although at the inception of these reincorporations the entrepreneur and capitalist functions were embodied in different persons or groups of persons in the new industrial companies just described, as soon as profits were earned and were not withdrawn, the capital was increased and the entrepreneur automatically became a capitalist. However, although the entrepreneurial function and the capitalist function are commonly embodied in one

man, these functions are separate and distinct and should not be confused with each other.

Functions of the Entrepreneur.—The pure entrepreneur is neither laborer nor capitalist; he merely owns the capital goods and the product and, through his ownership, holds control. In what active ways does he exert his control? First, if he is the original stockholder, he may organize the business unit. If he does not do this directly, he hires the laborers who do. Thus, the first stockholders are directly responsible for the formation and location of the particular aggregation of land, labor, and capital goods that make up the business unit. If they do no actual work, they, at least, had the original idea of the business. Second, they make decisions as to the general policy of the company whenever they vote. If they merely sign proxies, they surrender their rights to the directors.

The ownership of the capital goods and of the product are always the function of the entrepreneur, but the organization and control function are usually vested in one part of the entrepreneur only. Although all of the common stockholders regularly have a right to vote, the control is probably held by a few of the directors, who are elected by the majority stockholders. Thus, many of the common stockholders of modern corporations merely supply capital on easy terms, that is, they do not have to be assured an interest return, because they are promised an equal share of the profits if any are earned. Theoretically, however, they are a part of the entrepreneur because they own the capital goods and the

product and they have the legal right to vote, even though customarily they are satisfied to sign proxies.

The Risk Theory of Profit.—Inasmuch as the share of the entrepreneur is profit and as so many stockholders are merely part owners of the product and the capital goods, it has come to be believed by many economists that this ownership and the risk inherent in it justifies or, at least, explains profit. The risk theory of profit is so widely held that it deserves some attention. The following paragraph is taken from an article published by me in the *Quarterly Journal of Economics* for November, 1919:

> There seems to be no risk in ownership, *per se,* that would warrant compensation. The risk in the ownership of the product can be analyzed into two parts: the risk inherent in the possibility of not getting profit, and the risk of losing the capital or a part of the capital invested in the product. With respect to the first kind of risk, no factor in production is absolutely assured of a share in distribution. This is true of the laborer, although it is more conspicuous in the case of the capitalist and landowner. If an entrepreneur were to be compensated according to the risk he ran of getting profit, the most inefficient entrepreneurs could expect the highest rate of profit. With regard to the second kind of risk, Hawley acknowledges that this is a capitalist's risk and not an entrepreneur's risk. If the entrepreneur uses his own capital, he takes a risk as capitalist and not as entrepreneur. If he borrows his capital, the lender takes the risk. The risk inherent in the ownership of the product offers no sufficient justification for profit nor does it explain the variations in profit. The justification for the varying yields on capital due to different degrees of risk has been generally recognized.

The capitalist does not take the risk of not getting interest but he stands the chance of losing his capital, *i.e.*, the source of his income. When a laborer is paid a high wage in a dangerous occupation, he is compensated for the risk of losing his wage.

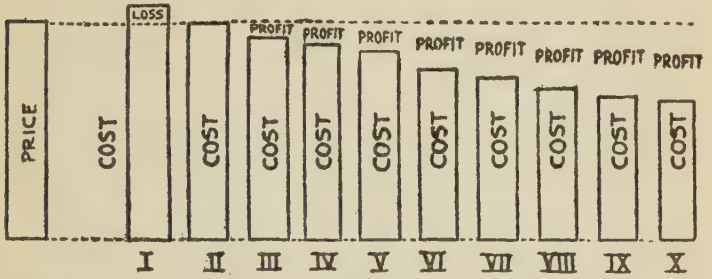
The risks of the factors of production may be summarized as follows:

1. (*a*) *Laborer* takes little risk of losing wage because he is paid first. (*b*) He takes little risk of losing source of his wage, that is, limb or life, except in dangerous occupation, where he demands a higher wage, as risk premium.
2. (*a*) *Landowner* and owner of capital goods, such as buildings, etc., takes slightly greater risk of not getting his share than laborer does of not getting his. Tenants do not always pay rent. (*b*) He takes little risk of losing the source of his rent, his land, but he may lose his capital goods; so he insures them, and charges the insurance in his rent.
3. (*a*) The *capitalist* takes a risk equal to that of landowner, or greater, of not getting interest. (*b*) He takes a considerable chance of losing his principal, as capital is often very soon dissipated.
4. (*a*) The *entrepreneur* takes the greatest chance of losing his profit because he is paid last. (*b*) He takes no risk of losing the source of his profit in the way the capitalist risks losing his principal.

If risk explained different profits in the way that it explains different rates of interest, the marginal entrepreneur, who takes the greatest risk of failure, would theoretically get the greatest profit, a *reductio ad absurdum.* There is one sense in which profits might be affected by risk; in precarious industries, capital ventures cautiously and there would theoretically be few entrepreneurs, little competition, and great profits. This, however, is not the relation between profit and risk that some economists have claimed exists. And certainly this relation would offer no good ground for justifying profit as a return for the risk the entrepreneur runs. The risk of the entrepreneur is not to be compared with the capitalist's risk, and differences in interest rates are explained by differences in risk, whereas differences in profits are not so explained.

The Reason for Profit.—As the risk in the ownership of the product and the capital goods does not explain profit, it is necessary to consider the origin and the nature of profit before it can be explained why the entrepreneur gets this share. When a number of producers bring their products into a market, each one will have a more or less accurate idea of his cost, below which he will not want to sell. The very low-cost producers have no fear because they know that any price that prevails can be expected to cover their costs and give them profits. The costs of the different producers can be represented graphically. The costs shown below are unit costs, that is, costs per unit of product, for 10 producers who manufacture an article of a standard

grade. These producers are assumed to be the only producers in the industry. These costs include interest.



GRAPHICAL REPRESENTATION OF PROFIT AND LOSS IN RELATION TO COST OF PRODUCTION

Assuming that the production period, for which these costs are shown, is a normal one, the producer whose cost just equals price is defined as the marginal producer. Why price was assumed to fall just where it did will be explained in the next paragraph. The marginal producer, II, made no profit; the very highest cost producer, I, showed a loss. Each of the eight producers, whose costs were less than that of the marginal producer, made a profit, which varied inversely with the size of his cost. It appears, therefore, that profit was realized by reducing cost below marginal cost or price.

It is interesting to consider the relation between productivity and the reduction of cost. It has been shown that the lowest-cost producer earns the highest profit, that the highest-cost producer earns the least profit, and that differences in profit are commonly explained by ability or luck in the reduction of cost. The productivity theory maintains that the

most productive entrepreneur tends to receive the greatest profit and vice versa. Therefore, if the two explanations of profit are consistent, the lowest-cost entrepreneur would be the most productive entrepreneur. This is theoretically true and can be explained by an example.

If two entrepreneurs had costs of $100,000 each, but one produced 1,000,000 units of product and the other only 900,000 units, the first would have the lower cost and be the more productive. Thus, the lowest-cost producer is the producer who gets the largest quantity of product per dollar of money expended in cost.

It has been assumed that price covered the costs of most of the producers. However, if the demand for the article produced had fallen off because of the introduction of a substitute or for any other reason, the price might have fallen so low as to have equaled the cost of producer IV on page 143. If, by any chance, these producers had produced very much more than the market demanded, price would never have been maintained at the cost of the marginal producer. When price falls very much below marginal cost, considerable losses are incurred. In the next production period, the existing producers may curtail output or some, who suffered heavy loss, may even have to withdraw from the industry. Then, when supply is reduced and demand decreased no further, price rises and may even cover the cost of highest-cost producer, I. During the World War when the supply of commodities was so short and the demand was so great, prices rose high above

marginal costs, and profits were abnormally large.

The entrepreneur's profit is not always explained, then, by the fact that his cost is below the marginal cost but also by the maladjustment of supply and demand and by the divergence of price from marginal cost. When producers get together and fix prices above marginal cost or when the supply is short relative to the demand, profits are earned by the marginal producer who, in normal periods and under conditions of competition, is supposed to receive no profits. Again, a producer can advertise an ordinary article in such a way that the consumer will be willing to pay a higher price for it than for unadvertised articles of the same grade.

Principal Kinds of Profit.—It is now possible to classify the different kinds of profit that the entrepreneur receives. First, he can obtain profit by selling some of his capital goods, land, materials, machinery, etc., for more than they cost. Second, he can obtain profit when his price is above marginal cost. Third, he can make a profit by having a lower cost than that of the marginal producer. The third method is the most important and the most permanent. It is necessary, therefore, to consider what entitles the entrepreneur to this kind of profit.

From the foregoing analysis it might seem that the profit is the result of the entrepreneur's productivity. It is sometimes stated the entrepreneur's profit arises merely because he underpays his laborers and because he deprives the capitalist and the landowner of what belongs to them. In other words, profit is said to exist only when the wages paid are

less than the productivity of the laborers, etc. As a matter of fact, if the specific productivity of labor could be ascertained, it would have to be admitted that what the laborers' efforts seem to produce may be in part due to the situation in which the entrepreneur places them. If an entrepreneur, not his agents, places the laborers in a position where their productivities are increased, he may be considered responsible for a part of the product that they may seem to produce independently.

It has been pointed out by some economists that the entrepreneur is seldom directly responsible for any increase in the productivities of the other factors and that his managers, efficiency experts, and accountants should be given the credit of reducing cost. This is undoubtedly true and should argue for a profit-sharing or bonus system especially for the more important employees. In corporations, which are the most important type of business organization to-day, the common stockholders are the entrepreneur. In most of the important corporations, the ordinary common stockholder has very little to say or to do, except to lend his capital, which he does as capitalist not as entrepreneur. If the common stockholder actually works, that is, labors, he receives a salary in cost and he could hardly claim additional profit for his personal service, particularly if the salary allowed were sufficient. It must be emphasized that the profit, the dividend minus pure interest, obtained by the ordinary common stockholder, who merely signs a proxy, is seldom productivity profit but is given him because he is willing to lend

his capital without rigid interest requirements. He foregoes the rigid interest requirements in order to be allowed to participate in the profits when earned.

The original stockholders of a company often have an idea that is productive and that reduces cost, and even though they may give no personal service and may actually work in other corporations, they may be said to earn their profit. But there are many kinds of profits that are not easily justified. Wherever trade-union organization is not effective, it is evident that the entrepreneur's superior bargaining power will enable him to pay lower wages than the productivities of his laborers would justify. The profits that result from the sale of capital goods or from inflated prices are often the result of luck, but it must be conceded that the profit that is caused by a short supply or an increased demand is often due to the entrepreneur's judgment of a future market and that the service he performs in producing for such a market deserves profit.

The Relation between Price and Cost.—The relation between price and cost shows clearly that the entrepreneur cannot merely add a certain percentage of his investment to his cost in order to determine his selling price. A competitively fixed price may allow the low-cost producer as much as 50 per cent on his investment, whereas it may allow a high-cost producer less than one per cent. There is, however, an interesting relation between the total investment and the gross profit, or economic interest plus profit, for the industry as a whole. It can be set forth best by presenting the results of a statistical study made

in the *Quarterly Journal of Economics,* of February, 1921.

Six industries, for which cost data had been collected, were considered in this analysis. For some of these industries costs for only one year were published, whereas in other industries costs for as many as four years were available. It was found that, for the industries considered, price approximated bulk-line or marginal cost when the total gross profit, interest plus profit, of all the producers represented from about 9 to 12 per cent of their total investment and that price was below or above bulk-line cost when the industry's gross profit on investment was less or more than from about 9 to 12 per cent of the industry's investment. By "bulk-line" cost was meant the cost below which the bulk of the production occurred. Thus, in Table I below, Group III is the group in which the average cost, $32.21, fell, but it is not the bulk-line group and $32.21 is not the bulk-line cost. Group V is the bulk-line group because the costs between $36 and $40 are just high enough to cover the costs at which the bulk of the output was produced. It should be noted that the bulk-line group is not the highest cost group. The highest cost group in the following table would have added so little to the product that the bulk thereof is accounted for without considering it. Tables I and II opposite illustrate this principle.

The bulk-line producers showed costs of from about $36 to $40. Adding an estimated interest of $4.30, because the costs in this table include no interest, it is evident that the bulk-line cost was above

I. The Cost of Producing a Ton of News-Print Paper in 1915

Cost Groups	Number of Mills	Tons Produced	Per Cent of Total	Average Cost per ton
I. Less than $27.....	3	195,820	19.1	$26.64
II. $27 and less than $30.	2	138,934	13.5	28.51
III. $30 and less than $33.	8	260,505	25.4	31.64
IV. $33 and less than $36.	11	276,672	27.0	34.75
V. $36 and less than $40.	8	120,199	11.7	37.74
VI. $40 and over.....	3	33,321	3.3	43.67
	35	1,025,461	100.0	$32.21

the average price received, which in 1915 was only $38.45. However, the industry only earned about six per cent gross profit on its investment in 1915.

II. The Costs of Producing a Pound of Copper in 1918

	Number of Companies	Pounds Produced	Per Cent of Total	Average Cost per pound	Average Selling price per pound	Average Investment per pound
Cost less than 15¢ .	6	424,340,257	33.84	12.630	24.357	22.428
Cost 15 to 17½¢ ..	7	395,672,390	31.56	16.284	24.430	33.278
Cost 17½ to 20¢....	8	169,578,109	13.53	18.078	25.073	31.453
Cost 20 to 21¢....	5	36,871,193	2.94	20.477	23.664	40.419
Cost 21 to 22¢....	5	91,812,263	7.32	21.605	23.108	36.412
Cost 22 to 24¢....	7	90,111,068	7.19	22.090	24.207	29.998
Cost 24 to 28¢....	8	33,955,962	2.71	26.273	24.455	20.961
Cost over 28¢.....	7	11,426,343	91	35.989	24.172	93.629
Total and Average.	53	1,253,767,585	100.00	16.700	24.388	29.779

The average selling prices realized by the producers in the different cost groups varied somewhat; but the average selling price for all the companies was 24.388 cents. The bulk-line companies received approximately 24 cents for their product. The Government fixed the price of copper at 23½ cents a pound, effective September 21, 1917, and this price prevailed until July 2, 1918, when it was put at 26 cents and remained so for the balance of the year.

The investment also varied for the different companies, but it is obvious that the 93.629 cents per pound group presented the "flotsam and jetsam of economic life."[2] The investment of the bulk-line producers was probably somewhere between 20 and 30 cents. Thus, interest at five per cent would be about 1 cent or 1½ cents. If this interest deduction be subtracted from the price, the result would be anywhere from 22.5 to 23.5 cents. The bulk-line cost seems to be about 20 cents. Thus, price was even above the bulk-line or marginal costs. This is explained by the fact that the industry averaged more than 25 per cent on its investment.

It was stated on page 106 that one reason why it seems preferable to have the accountant's cost coincide with the entrepreneur's cost, rather than the entrepreneur-capitalist's cost, would be set forth in this chapter. When the accountant excludes interest from his cost, the difference between price, or sales, and cost is "Gross Profit," that is, interest plus profit. Inasmuch as interest bears a definite

[2] The highest-cost producers, not the marginal or bulk-line producers.

relation to capital or investment, the accountant sometimes assumes that the Gross Profit and even the pure, or economic, profit also bears a definite relation to the producer's investment. This failure to distinguish between interest and profit has led some accountants to believe that the different percentages of return, gross profit divided into investment, obtained from different aggregations of capital goods are varying rates of interest on the capital invested. Some social-minded accountants have gone so far as to believe that if a fixed return of 10 or 15 per cent gross profit is exceeded, the producer becomes a profiteer; they apparently fail to recognize the desirability of having the producer reduce his costs, and they neglect the very important distinction between interest and profit.[3]

[3] See Appendix I.

CHAPTER XIII

COMPETITION

The Assumptions of Competition.—The economic organization of society under which we live is often called the "competitive system." In many places in the foregoing chapters, "normal conditions of competition" were assumed. What is meant by "competition"? There are two fundamental principles involved: first, every individual is assumed to be working for himself by buying what he needs as cheaply as possible and by selling what he has for as high a price as possible; second, each individual is supposed to be working not only for himself but also by himself and not in concert with others of his class.

The laborer, the landowner, and the capitalist are supposed to charge for what they give in production as high a return as they can get. If they are not receiving so high a wage, rent, or interest in one industry as they could receive in another industry, they are supposed to withdraw from the first and enter the second industry. The fluidity of labor, capital, capital goods, and land, then, is a corollary of the first principle of competition. By the fluidity of land is meant that if corn does not pay, the acreage may be turned to rye. The entrepreneur, too, is supposed to get the best price he can and to go

to the most profitable industry. The buyers of economic goods, of which group the consumers are the most important members, are assumed to be getting the lowest possible prices.

The second principle assumes that no individual in any of the economic classes indicated should combine with any other individual in his class to strengthen his bargaining power. Thus, the laborer is supposed to bargain individually with the particular entrepreneur for whom he works. The entrepreneurs are not supposed to combine in fixing prices.

It is obvious that the assumptions of competition are not always valid. The fluidity of labor, capital, capital goods, and land is not always so automatic as it is believed to be. Laborers, who have acquired skill in one occupation, cannot always change their crafts on short notice. Many laborers prefer to work for their old employers at lower wages than to make a change. Capital, which has been transferred into fixed capital goods, cannot be shifted readily from one industry to another. Swords cannot literally be made into plowshares. Moreover, ignorance and carelessness may explain much of the immobility of the factors of production.

The producer does not always get the market price, particularly if he is located at a great distance from the market. The consumer through ignorance or through unwillingness and inability to "shop" may pay too much for a particular brand. The consumer, to-day, is forced to place too much dependence on the seller's advertisement. The trade, as a

whole, under the supervision of a governmental agency might be required to submit the products manufactured to the test of experts, and a standardization could be based thereon. The Bureau of Markets of the Department of Agriculture is attempting to establish grades and to preach standardization in food products.

Collective Bargaining.—All of these interferences with the free play of competition are generally recognized by economists, but are considered only temporary and incidental interferences, which do not affect the broad, general principles involved. None of these interferences, however, are so noteworthy as the fallacy involved in the belief that free, absolutely unrestricted competition tends to give to each factor of production what can be specifically imputed to that factor's service. Such a theory would imply that the bargaining power of the entrepreneur and the laborer are equal. The greater wealth of the entrepreneurs and the fact that there are many more laborers than entrepreneurs would enable the entrepreneur to keep a large part of the laborer's productivity, were not laborers organized. Collective bargaining theoretically enables the laborer to get what he produces, whereas unrestricted competition would probably not give it to him. If collective bargaining gives the laborer more than he produces, it might be considered uneconomical, according to the productivity theory. However, it was suggested on page 40 in Chapter IV that it might be advisable and even ethical to allow laborers more than their specific productivities, even though it might retard

slightly the growth of capital and the development of enterprise. It has been explained that the economist's first interest is in the consumer. However, it has come to be realized that even though collective bargaining may lead to higher wages, higher costs, and higher prices, the laborer needs as much attention as the consumer, particularly if the non-union and unorganized workers be classed with the organized workers, because the incomes of the great bulk of the consumers are wages.

Price Control.—There is another interference with free competition that the economist does not consider so favorably, namely, price control by producers. It was explained in Chapter XII that price tends to be equal to the cost of the bulk-line producers under normal conditions of competition. If the producers in an industry combined to fix a price above the marginal or bulk-line cost, they could maintain it, provided the demand were not seriously affected. The producers usually fix prices in their trade association meetings. Under the guise of cost discussion, they often determine upon selling prices. The Federal Trade Commission has investigated the price-fixing activities of some of the State canning associations in the Middle West. The following paragraphs are taken from the Commission's report:[1]

The Iowa and Wisconsin associations apparently went farthest in price discussions and agreements. An extract from the minutes of the meeting of the Iowa association on

[1] Report of the Federal Trade Commission on Canned Foods, May 15, 1918. Government Printing Office, Washington.

September 27, 1916, runs as follows: "It was, however, the general opinion that it is advisable not to open prices until after the annual meeting in November, and possibly not before the first of the year." Of the meeting of January 3, 1917, the secretary in his report dated November 6, 1917, said:

After the first of January . . . we felt it was time to offer goods for future delivery, and based on our estimate of such costs, we felt that 90 cents for standard corn was as cheap as we could pack it . . . Most Iowa packers offered goods at that price. There was no collusion or agreement of any kind between packers, but simply a general consensus of opinion that we could not afford to sell it cheaper. This was, I think at least 15 cents per dozen higher than any opening price, . . . and it seemed doubtful if the trade would accept it. But it remained to be *proven that we can make a reasonable price, even if it be higher than all precedent, and sell our product at that price.*

Rule 5 of the Iowa association, to which all members have agreed, reads: "We agree that we will not offer to sell future corn any year before a meeting is held by the association, called specifically to discuss the opportune time for opening futures."

The Commission is in possession of copies of letters showing that members of this association reached agreements as to prices, as to time when prices were to be advanced, and showing activity of the secretary in holding members in line on prices and in inducing members with low prices to withdraw them and make quotations in line with those of other Iowa packers. The secretary has even gone so far as to offer to purchase the product of canners who have made low prices, and this secretary stated to an examiner of the Federal Trade Commission that this procedure has generally been effective.

In some industries there is no need for the concerted action of a large number of producers because

[2] The Commission's italics.

there is only one producer, who has survived or combined all the others. Such a producer is said to have a monopoly. A business unit might be organized for the purpose of producing a patented article; if no other company had the right to use the patent, a monopoly would be inevitable. But there are monopolies that have developed in competitive industries and not as the result of any patent.

Large-Scale Production.—It has been said that there is a tendency toward monopoly even in a competitive industry. In order to explain this seeming paradox, it will be helpful to consider the probable differences between the costs of the large producers and the costs of the small producers. If Company A manufactures twice as much product as Company B, the total Raw-Material cost of Company A will probably be twice as great as Company B's Raw-Material cost. The Labor cost (Wages) may or may not be twice as large for the first company. It would undoubtedly take more laborers to double the production, but if it did not take twice the number, the labor cost per unit of product would be less for Company A than for Company B. Even if Company A has twice as large a payroll as Company B, the overhead costs and all the costs above the prime cost, that is, above materials and direct wages, would probably be very little greater for the larger company. Thus, other things being equal, Company A would probably have a smaller cost per unit of product manufactured than Company B. Moreover, even if Company A's production were increased so that a larger total investment and a

larger overhead were needed to handle the increased output, the unit cost, nevertheless, might be further decreased. The following figures will help to clarify the text:

	Company A	Company B
Production	2,000,000 units	1,000,000 units
Raw-Material Cost	$2,000,000	$1,000,000
Labor Cost	1,000,000	500,000
Overhead Cost	1,000,000	750,000
Total Cost	$4,000,000	$2,250,000
Cost per unit	$ 2	$ 2.25

The unit Raw Material and Labor costs were identical but the Overhead was $0.50 for Company A and $0.75 for Company B.

What has been described in the foregoing paragraph is predicated on an assumption of economic theory known as the law of increasing returns. As the production is increased, and as new units of labor and capital, represented by capital goods and land, are added, the unit cost of production is decreased. However, in almost any type of business, there is a limit beyond which additional units of labor and capital goods can be added economically. When the addition of these units increases the production but does not decrease the unit cost, or, in other words, when the new units of labor and capital just pay for themselves, the law of constant return is said to be operating. There might come a time

when additional units of labor and capital would not pay for themselves, when the unit cost would be increased rather than decreased as a result of the increased production. Then, the law of decreasing return would be operating.

It is generally held that the law of decreasing or diminishing return begins to operate sooner in agriculture and in the extractive industries than in manufacturing or in marketing. When the farmer first hires new laborers and buys additional farm machinery, the product will probably be increased in sufficient quantities to pay for the increased wages, for the depreciation on the new machinery, and the interest on the capital used to obtain the machinery and to finance the extended operations. However, if the farmer continues to add more labor, to use more capital, and to obtain more capital goods, a time will come when the increased quantities produced will not compensate for the increased expenses, such as wages, depreciation, and interest. Under such circumstances, the law of diminishing return has begun to operate. The farmer, then, looks to new land if he would increase his product. In agriculture, this law has resulted in a limit to "intensive cultivation" and has encouraged "extensive cultivation."

Inasmuch as the operations of the law of increasing return, according to pure economic theory, is supposed to apply to most manufacturing establishments, it would seem that the largest business units would have the lowest cost.[3] Futhermore, since the

[3] See the foregoing paragraphs.

large low-cost company would reinvest its profits and expand, its costs would be further reduced. If it reduced prices so as to obtain new customers, it might eventually drive out all competitors. This explains the seeming paradox that there is a tendency toward monopoly even in competition.

There are certain interesting qualifications that might be appended to the theory advanced in the foregoing paragraph. There is often a limit to the size of the most efficient business unit. In other words the law of increasing returns does not always operate without qualification even in a manufacturing industry. Furthermore, the largest company does not always have the lowest cost; it may maintain its relative importance in the industry by methods that will be explained in subsequent paragraphs. Finally, because cost is dependent on many different physical and psychological factors, a low-cost company in one year may become a high-cost company in another year.

Obviously the relation between the size of the business unit and cost would be different for different industries. Statistical studies will have to be made, however, before this relation can be definitely established. The unwillingness of producers to reveal their costs, as well as the great expense involved in securing them, makes such studies practically impossible for any agency other than the Federal Government. In the Federal Trade Commission's Report on Canned Salmon, December, 1919, it was shown that the larger plants had lower costs than the smaller plants but that the larger

companies, which were merely combinations of a number of plants, some large and some small, had higher costs than some of the smaller companies, which might have had only one large plant. It might have been thought that the large company, which was merely a combination of small plants, would have the advantage of economy in buying materials and would have had a lower General and Administrative Expense per unit of product.

Unfair Competition and the Anti-Trust Legislation.—There are many advantages that the large company has even though some of the smaller companies may have lower costs. The large company with great capital can advertise its product and obtain a profit, that does not result from reduced cost.[4] Some manufacturers, who are not nationally advertised, have to sell their brands at prices under the prices of the nationally advertised brands. The large company, moreover, can stand the strain of demoralized prices better than the small company. In fact, some large companies have been known to depress their prices below all costs for a period in order to embarrass their weaker and smaller competitors. The large companies have often monopolized the sources of supply of raw materials, or, through control of transportation, have obviated competition.[5] Secret rebating as well as numerous other unfair methods of competition have also led to monopoly.

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[4] See page 145.

[5] See Summary to the Federal Trade Commission's Report on the Meat-Packing Industry.

When industry began to develop in the United States after the Civil War, producers often found it advantageous to make agreements with each other rather than compete. Moreover, as business men came to realize the advantages of large-scale production and the profits to be made by eliminating competition, they began to combine their businesses. The promoter's profits in such combinations attracted a certain type of men with organizing ability, who attempted to combine everything there was to be combined. In 1890 Congress enacted the Sherman Anti-Trust Law, which made any monopoly, attempted monopoly, or restraint of trade illegal. By "restraint of trade" was probably meant any interference with competition. Most of the combinations had been affected through what were known as trusts. Every stockholder of the companies combined had surrendered his voting power to a group of trustees, who gave him trust certificates in return. The holders of the trust certificates received the dividends, but the control was vested in trustees, who voted the stock. The Sherman Law declared these "trusts" illegal.

Not very much attention was given to this law until between 1900 and 1905, when a large number of the combinations that had been formed began to fail.[6] These failures were probably due to the fact that competition had not been effectively stifled and that the combination of plants and companies was often less efficient than the separate units that com-

[6] See A. S. Dewing, *Corporate Promotions and Reorganization*, Harvard University Press, 1914.

posed it. These failures and rising prices stirred up feeling against combination and monopoly. The dissolution of the Standard Oil Company of New Jersey and the American Tobacco Company in 1911 sounded a note of warning to those who anticipated violating the Sherman Law. However, it is often maintained, and with good reason, that the dissolution decrees did not really establish competition. Although the Standard Oil Company of New Jersey, which had controlled the other Standard Oil companies through the ownership of majorities of their stocks, was dissolved, the original stockholders of the Standard Oil Company of New Jersey were given, as individuals, the controlling stocks of the various Standard Oil companies. Thus, the same families, such as the Rockefeller, Harkness, Flagler, Whitney families, etc., who formerly controlled the Standard Oil Company of New Jersey and, through it, all the subsidiaries, to-day control the subsidiaries directly. That there can be any real competition between these subsidiaries, that is, between the different Standard Oil companies, seems improbable.

In 1914 the Clayton Act and the Federal Trade Commission Act were passed by Congress to check incipient monopoly. The Sherman Law had only made monopoly or attempted monopoly illegal. The Clayton Act made any combination that "substantially lessened competition" unlawful. A company, thus, was not allowed to buy the stock of its competitor, even though the two companies together controlled only one per cent of the total production of the industry, if the purchase lessened competition

between them. Furthermore, price determination as between different purchasers was declared illegal. The Federal Trade Commission Act created a body that was given authority to declare unfair methods of competition unlawful. It was believed that secret rebating, misbranding, price discrimination, and other unfair methods of competition would enable companies that used them to crush their competitors. Therefore, the Federal Trade Commission is authorized to investigate all suspicious trade practices and to decide, subject to later revision by the courts, what methods of competition are unfair and should be declared unlawful.

CHAPTER XIV

TAXATION

Man's Political Relations.—In all of the foregoing chapters man has been considered in his economic relations only. Because all are consumers, and in order to be consumers must give aid in production or receive support from those who do, all have an economic relation and are a part of the economic organization of society. But everyone also has a political relation and is a part of the state. Formerly, there were two classes: the governors and the governed; but in modern democracy every man is supposed to have something to say about how he is governed. The government, therefore, is created in the state and by the people of the state to manage its affairs.

The student of economics will readily see the need of government. Competition presupposes rivalries, conflicts of interest, and cross-purposes in the reconciliation of which a government and governmental machinery are necessary. Furthermore, the government is needed to do certain definite things that individuals could not or would not do, as for example public-health service. Finally, a government has always been expected to protect its people from the aggressions of other peoples.

It was stated in Chapter I that a German econ-

omist had criticised American economists because they do not pay sufficient attention to the relation of the state to man's economic welfare. Most American and English economists have believed for many years in a *laissez-faire* policy for the government. In other words they have believed that the government should interfere as little as possible with men in their economic activities. Moreover, many of them have believed that the government should do as little as possible. It will be shown that these theories of government have an important bearing on the problem of taxation.

The Purposes of Taxation.—It is evident that if a government does anything at all, it must have funds. These funds are usually obtained through taxation.[1] C. F. Bastable, the English economist, defines a tax as "a compulsory contribution of the wealth of a person or body of persons for the service of the public power." Those who think that the government should do as little as possible would probably believe in the lightest taxes possible. They would be inclined to oppose any taxes but those absolutely necessary for the simplest kind of governmental machinery. For them the only purpose of a tax would be the financial support of the government.

A tax may have one or two other purposes than the one mentioned. (1) Certain forms of taxation are often proposed as methods of redistributing

[1] These funds, however, might be obtained from rents paid by those who lease the public domain or government lands, or they might be secured by the government's business activities, such as running the railroads, etc.

wealth. The inheritance tax, for example, might be used to take from those who have too much and to help those who have too little. Obviously, if the government, Federal or State, imposed a larger tax on inheritances, the proceeds would be sufficient to obviate certain other taxes, which might be paid by those who can less well afford to contribute to the state's support than the beneficiaries of inheritances. (2) Some taxes have been proposed primarily for the accomplishment of some especial purpose. The tax on State banknotes and on oleomargarine were imposed primarily to obviate their existence. The taxes on whiskey and tobacco may have had somewhat the same purpose, but they were also used for the revenue they yielded. This was also true of the protective tariff, which kept out certain foreign products and stimulated American industries, but which was also an important revenue-yielding tax.

Most fiscal systems employed by governments to-day include all kinds of taxes, most of which have been imposed for more than one reason. Even those taxes, that have been levied primarily for revenue, have often been imposed in such a way as to put the least burden on the poor and heavier burdens on those who could better afford to bear them. This method of imposing taxation, however, has not been evolved primarily for the purpose of redistributing wealth but because taxation seems less burdensome when those who can best afford to pay are taxed most.

The Single Tax.—The single tax has been proposed by social reformers as a means of redistribut-

ing wealth. The name of Henry George usually has been associated with this tax in the United States but the French Physiocrats had somewhat the same idea back in the eighteenth century. The single tax, as conceived by Henry George and the Physiocrats, was to be a tax on land and rent. All of the state's revenues were to be obtained from this tax. There are probably two considerations that led to this proposal: first, land is not produced by man's efforts and rent from the use of land seems unjustified; second, land increases in value because of the growth of population and through no effort on the part of the landowner. Even though there might seem to be no justification for allowing a man to claim a piece of land as his own, because he did not produce it, it is clear that after the first transfer, it would be easy to justify ownership and rent, especially if the purchaser had saved out of his wages the capital necessary to make the purchase. Moreover, the rent demanded by the first owner is not large pay for the hardships of frontier life. The taxation of unearned increments in land values, which is being developed particularly in municipal finance, meets the second problem of the single taxer. Furthermore, the income and profit taxes are probably the most effective way of reaching this source of taxation. It should be noted that there are many unearned increments other than in land values, as for example, the appreciation in the value of other capital goods, inheritances, and other kinds of profits.[2] The single tax would neglect all these, and would give undue

[2] See Chapter XII.

emphasis to unearned increments in land values. This tax has never been tried on a large scale, and has probably even lost vogue as a method of social reform since the spread of Socialism.

It is doubtful whether taxation has ever been used to any great extent merely for the redistribution of wealth. A government needs funds and taxes the citizens or the institutions of the state in order to obtain them. In imposing taxes, it may consider on whom the taxes will fall, that is, who actually pays them, and it may attempt to have them fall most heavily on those who can best afford to pay them. If this principle is carried very far, and if the government uses the proceeds from such taxes to improve the condition of the poor, taxation is incidentally being used to redistribute wealth.

The Shifting and Incidence of Taxation.—The fact that many taxes that seem to be paid by one class are really paid by another has stimulated the economist's interest in the "shifting and incidence" of taxation, or in how a tax may be shifted by those on whom it is imposed to others on whom it falls (incidence). It has been explained that a tax on imports will be shifted by the importer to the consumer. If an article were produced in the United States at costs ranging from $4.50 to $5.20 and sold at about $5.10, the same article produced in Germany at costs from $3.50 to $4.00 would, at a price of about $4.00, including freight, supplant a part or all of our American-made product. If a tariff of a dollar were imposed, the German and the American product would compete. The importer would pay

$4.00 for the German product and $1.00 tariff, but he would be able to charge the consumer about $5.10. Thus, he would shift the tax to the consumer. If the article were not manufactured in the United States, the importer would be able to shift the tax and probably be able to include an even greater margin of profit in his selling price.

The Income and Profit Taxes.—Most of the revenue of our Federal Government has been derived from the income tax since 1916. Congress had established an income tax in 1894 but the Supreme Court had declared it unconstitutional. An amendment to the Constitution allowing Congress to levy an income tax was passed in 1909 and ratified by the necessary number of States in 1913. The Act of 1913 imposed an ordinary tax of one per cent on all incomes over $3,000 and $4,000 for a married couple, and a graduated surtax, ranging from one to six per cent, on incomes over $20,000. The highest rate applied to incomes over $500,000. The ordinary tax was collected from all corporations; the stockholders as individuals, thus, were exempted from paying it. In 1916 the ordinary rate was increased to two per cent and the rates of the surtax were fixed at from 1 to 13 per cent.

When the United States entered the War in 1917, the War Revenue Act revised the income tax. The normal rates were doubled and a four per cent tax was levied on corporations. In addition to the surtax, 1 to 13 per cent, a war surtax on incomes over $5,000 was imposed with rates from 1 to 50 per cent. In 1919 the income-tax law was revised so there was

just one set of normal and surtax rates. Under this law of 1919, incomes over $1,000, or $2,000 for a married couple, were taxed. On incomes from $1,000 to $5,000 the normal tax was 6 per cent, and on incomes over $5,000 it was 12 per cent. The surtax, which was imposed only on incomes over $5,000, ranged from 1 per cent up to 65 per cent. The last rate applied to any income over $1,000,000.

The great profits due to the high prices, which prevailed during the War, were taxed by what is known as the excess-profits tax. All businesses, which earned a gross profit, or interest plus profit, in excess of a certain percentage of the capital invested, fixed at eight per cent, paid taxes varying from 20 to 60 per cent according to the rates of gross profit earned on investment. Thus, if a business earned anywhere from 8 to 15 per cent gross profit, it paid a tax of 20 per cent; if the gross profit was from 15 to 20 per cent, it paid a tax of 25 per cent, etc.

In 1919 this excess-profits tax was revised. A new tax, known as the war-profits tax, was imposed as an alternative. This tax was fixed at 80 per cent of the amount of difference between the income of a pre-war period and of the year for which the tax was levied. The excess-profits and the war-profits taxes were both to be computed, and whichever was larger was to be paid.

Although the income tax was levied on incomes, which were received as wages, rent, interest, or profit, the profits taxes were levied directly on the entrepreneur's share. The incidence of a tax on profits is a problem of great interest to both the

economist and the accountant. It has been shown that in a normal period price is fixed at the bulk-line producer's cost. The bulk-line producer, however, just receives interest but earns no profit; he, therefore, pays no tax. The producers with costs lower than that of the bulk-line man must pay the tax out of the profit that competition would allow them, if it be assumed that they cannot lift the price above the bulk-line cost. Thus, price would not be affected and the producer, not the consumer, would be forced to shoulder the tax.

In a period of inflated prices, when price is far above the bulk-line costs, all producers, even the highest-cost producers, would make a profit and have a tax to pay. The high-cost producers, as well as the low-cost producers, would be able to shift price up so to cover the profits tax or a part of it. Therefore, during the War, when the demand justified any prices and when prices were high above all costs, the profit taxes were probably shifted to the consumer. The fact that profits taxes were shifted to the consumer during the War was used against them by many who argued for a sales tax. The difficulty of determining the profit for business organizations, the publicity it gave to war profits, and the burden it imposed on entrepreneurs were the real motives that were behind the opposition to the income and profit taxes. The sales tax can be shifted to the consumer in normal as well as abnormal times but the possibility of shifting a tax on profits is far more limited. The marginal, as well as the lower-cost, producers will pay the sales tax; they will add it to

cost and probably succeed in shifting it to the consumer.

There is an interesting question as to whether the accountant should include the tax on profits in cost. Obviously the bulk-line producer would have no such tax in his cost, because he would have none to pay. Furthermore, the tax could not be included in cost when profit is being determined, because its inclusion would presuppose that profit was already determined.[3] It is a tax based on profit. However, after it is determined, that is, after price is fixed, it might very well be added to the other costs or monetary sacrifices of the entrepreneur. But if the cost is to be used by the entrepreneur merely as a basis for fixing a price, it should not include the profit tax. Furthermore, in determining cost for the purpose of computing the profit tax to be paid, it would be absurd and logically impossible to attempt to include such a tax.[4]

[3] See Appendix II.
[4] See Appendix II.

APPENDICES

APPENDIX I

INTEREST AS A PART OF COST

The problem of whether interest should be included in cost is much debated by accountants, but the solution of this problem is so dependent upon a knowledge of economic theory that much that has been written and said is either illogical or irrelevant. This question has been referred to in a number of places in this book, but it seems advisable to set forth a complete discussion of the problem in this appendix.

It has been explained that the accountant is working for the entrepreneur and that accounting cost is practically the entrepreneur's cost.[1] Just who the entrepreneur is and what he does has also been discussed in detail on page 137. In a corporation, the most common form of business organization, the common stockholders are the entrepreneur and in a single proprietorship or partnership, the proprietor or partners. The entrepreneur has the voting control and he is owner of the capital goods and product. The entrepreneur may or may not be the capitalist. The capitalist supplies the capital, which is defined as *postponed claims on consumption goods, expressed in terms of money.* The entrepreneur

[1] Accounting costs are actually the entrepreneur's costs that can be established before sale.

takes these postponed claims and uses them for expenses or transfers them into capital goods, which are defined as *goods used in the production of other goods.* Although it should be noted that in practically all corporations the common stockholders supply capital, when they buy their common stock, the common stockholder can be a pure entrepreneur and have no dollar of invested capital in the business.[2] Furthermore, even though the function of the entrepreneur and the function of capitalist may be embodied in the same person, they are, nevertheless, separate functions. The shoemaker described on page 83 was entrepreneur, capitalist, and laborer. Not only should these functions be distinguished but the returns received should be differentiated. The shoemaker receives profit as entrepreneur, interest as capitalist, and wages as laborer.

It was explained on page 83 that the entrepeneur's sacrifies *in his other capacities* are as much a part of his costs as his actual monetary expenditures. Thus, the entrepreneur's costs include an allowance for himself as laborer, if he works, and interest on his own capital as well as his actual monetary payments to hired laborers, to the bankers, and to the entrepreneurs, who furnished him with raw materials.

There are certain sacrifices made by the entrepreneur, *as entrepreneur,* but such sacrifices are not included or compensated for in cost, even if they could be measured in money. Thus, the undertaker may be making a sacrifice in engaging in his profes-

[2] See page 137.

sion, but he makes this sacrifice as entrepreneur and receives his reward in profit, which theoretically would be greater because competition would probably be less keen. Even if the distaste of each particular entrepreneur could be measured in terms of money, it would not be a legitimate part of the entrepreneur's cost. Engaging in a distasteful occupation is one of the functions of an entrepreneur who directs funerals, and his profit is the payment for this among other things. The undertaker's distaste is his sacrifice as entrepreneur, not his sacrifice as laborer or as capitalist. Now, if the entrepreneur receives any return in his capacity of entrepreneur, it is his profit and not his cost.

Obviously if the entrepreneur's cost is being considered, his payments of interest to outside capitalists and an interest charge for his own capital must be included in his entrepreneurial cost. He, as entrepreneur, owes himself as capitalist interest just in the same way that he owes himself a salary as laborer, if he works. It might be urged that an entrepreneur must have capital in order to be an entrepreneur, and that the interest he receives is no different from profit in that it is a return for one of his necessary entrepreneurial functions. But it was explained on page 137 that there can be a pure entrepreneur and it must be realized that inventors are often pure entrepreneurs when they take the common stock of the enterprise and sell preferred stock to outside capitalists. That the entrepreneur of a corporation, the stockholder, is usually both entrepreneur and capitalist has led most accountants

to insist that their return cannot be subdivided into interest and profit. However, some members of the profession realize that interest actually paid on short-term loans, on notes, or on bonds are actual expense in the same way that wages paid to laborers and rent are expense. For another reason some accountants include interest on short-term notes although interest on capital, borrowed for longer than a year, is excluded.[3]

There is one argument of some interest for including interest actually payable in cost and excluding interest on the stockholders' investment: the interest to outside capitalists has to be paid, whereas the interest on the stockholders' capital legally need never be paid. Although it will be shown that this is no basis for the distinction between what is cost and what is not cost, the same argument can be used against the inclusion of Salaries and even of Depreciation in cost. Although Depreciation represents a part of what was spent, legally, it need not be set aside. It represents an allowance to take care of the capital expended in the purchase of the fixed-capital goods (depreciated) but if this capital, or a part of it, was supplied by the stockholders, the depreciation allowance is no more their obligation than the interest payment. The capital could not be replaced if Depreciation were not allowed in cost or deducted from profits, but the business might go on nevertheless; moreover, the entrepreneur-capitalist would hardly be willing to continue if he could not even make a sufficient Gross Profit, or interest

[3] See pages 127 and 128.

plus profit, to cover an interest return. In the final analysis, however, entrepreneur's cost is not a matter of law or judicial decision; it is a total of expenditures made to others and allowances for sacrifices made by the entrepreneur in his other capacities.

It might be asked what allowance is to be made the entrepreneur, if he works. The answer seems simple enough: what he is worth. It, then, might be argued that a laborer may get less than he is worth, and that the laborer's sacrifice is not cost. True, but the entrepreneur is in a strategic position and he can insist upon his worth in his bargain with himself. Furthermore, the accountant must give him his worth because the accounting statement is made for the entrepreneur. It may be recognized that the allowance of salary for entrepreneurs commensurate with their worth is the accountant's tacit assumption of the productivity theory.[4] It is important to note that the accountant is not interested in the laborers' sacrifices except when the laborer happens to be the entrepreneur.

It seems indisputable, then, that if it can be assumed that the accountant is determining the entrepreneur's cost, interest as well as salaries for stockholders who work must be included. However, the reasons for assuming that accounting cost must coincide with entrepreneur's cost have not been fully presented. Before these reasons can be comprehended, a restatement of the purposes of cost is necessary. There are four principal needs of know-

[4] See Chapter IV.

ing unit costs of producing the different sizes and grades of commodities handled: (1) for fixing selling prices; (2) for determining the different profits on the different commodities, after they are sold; (3) for comparing the itemized costs of different plants and for different years, etc.; and (4) for valuing inventories.

It has been explained at great length that seldom does the entrepreneur sit at his desk and fix a price; he attempts to get the best price he can. However, there are two particular reasons for knowing the unit costs. When prices are falling or where competition is very keen, the entrepreneur wants to know cost in order to know the lowest possible price that will not result in a loss. Obviously, for this purpose interest actually paid or payable should be considered, for even if he received cost without any interest, he might be losing money because he might have to pay bond interest, interest to the banks, and probably even preferred-stock dividends. Furthermore, even if he included interest paid but did not include interest on his own capital he would not be receiving a price that would allow him to be breaking even, because he would be unpaid as capitalist. Furthermore, if interest is excluded when competition is very keen, one entrepreneur may believe that he has a lower cost than the others, whereas his lower labor cost, for example, may be due to a greater use of machinery, which may have been financed by outside capital and require actual interest payments.

The accountant may insist that he takes these

things into consideration even though he does not consider them in connection with cost. Some accountants have so limited the conception of production cost that they do not even consider inventory adjustments, General and Administrative Expense, or Selling Expense. Obviously, for the use of cost in connection with price, these considerations must not be neglected. The Cost of Sales, rather than the Cost of Production, that is, Cost of Production, plus the first Inventory, minus the last Inventory, plus the General and Administrative Expense, plus Selling Expense, must be considered when using cost as a basis for price quotation. The accountants who oppose the inclusion of interest in the Cost of Sales would insist that when selling price is to be considered, some allowance can be made for the investment, but obviously the best way to treat this investment is to include interest in cost. Furthermore, this allowance is usually supposed by accountants to be a combination of interest and profit, and the difference between price and cost, minus interest, is often called return on investment. This treatment of interest and profit is based on a misconception of the nature of these two shares. Profit is not determined until the sale is made, but interest is a cost the moment capital is injected into the business unit. The accountant may object, and urge that interest is not always realized. Interest is not "realized" any more than wages are "realized"; both wages and interest are costs even if the goods are never sold. Profit is the only share that is determined by sale.[5]

[5] See Appendix II.

The possibility of arriving at an actual Cost of Sales on which price can be based may be questioned, inasmuch as goods are being sold constantly and an accurate Cost of Sales would be difficult to determine until the end of the year. However, even if only the Cost of Sales of the past year is available, it furnishes a basis for estimating the probable present cost.

The second reason given for cost analysis was the necessity for determining the different profits on the different commodities manufactured. The efficient general manager needs to know on which commodity, and even on which size or grade of the different commodities, he has realized the least profit. The sales policy and the emphasis in manufacturing may be determined by the different margins of profit realized. For this purpose it is obvious that the investment must be considered. If one commodity shows a lower cost than another, it may be due to the larger amount of capital invested in the machinery used in producing the apparently cheaper commodity. The accountant may believe that if interest is excluded, the gross margins between the prices and the computed costs, that is, interest and profit, can be measured on the investments in order to determine the profitableness of the various commodities. However, this involves a computation of investment, and furnishes a useful basis for comparison, although it too often assumes that profit bears a fixed relation to investment.[6] Too many accountants neglect the matter of investment altogether, and

[6] See Chapter XII.

believe that a comparison of costs, excluding interest, is all that is needed. The exclusion of interest from cost has led to this belief.

The third reason for cost analysis, for a comparison of the costs of different plants, is often admitted as a good reason for including interest in cost. If the costs of various plants are being compared, some of which pay rent, an item of cost, and some of which are owned, those that are owned will seem to have much lower costs than those that pay rent, whereas the efficiencies of the apparently high-cost plants may actually be greater than those of the apparently low-cost plants.

The fourth purpose of cost accounting is probably the most important from the accountant's point of view. The accountant maintains that in computing profit, the adjusting inventories of finished goods should be valued at cost.[7]

Therefore, the cost of the finished goods has to be determined before they can be valued in the closing inventory. Some usually thoughtful accountants argue that the inclusion of interest in cost involves an interest charge in the inventories. The inventories are not sold, they maintain, and therefore they believe that interest is not realized. But interest may be actually paid, or be payable, and, if not actually paid, sacrificed. The labor cost embodied in the inventories is not "realized" until they are sold, but no one ever doubts but that labor is a cost. Neither wages nor interest need to be "realized" in order to be costs; profit is the only share that is

[7] See page 133.

determined by price and the market, and profit is the only share that is "realized" by the entrepreneur in the sense that these accountants use the word. True, the interest may not be earned or paid, but that is also true of the wages. If interest is logically a part of cost, it is highly illogical to object to its inclusion in inventories, if they are to be valued at cost. To object to interest, assuming that it is logically a cost item, because it inflates cost or the valuation of the inventories, is like arguing that wages or Depreciation should not be considered cost items because they increase costs.

It seems evident that it is the pure entrepreneur's cost that the accountant is determining. If the accountant refuses to admit this, he is put in the position where he must consider his statements compiled for the stockholders, bondholders, and banks. Obviously, he is not making his statements for any one other than the common stockholders. On the Balance Sheet, for example, the Surplus is not described as the common stockholders' Surplus, but it so evidently belongs to them that no specific mention is necessary. Every accounting statement is made for the common stockholders, who may or may not be entrepreneur-capitalist, but who are always entrepreneur. If it is contended that the entrepreneur is seldom a pure entrepreneur and is usually entrepreneur-capitalist, cost without interest would not be giving the entrepreneur-capitalist the same consideration accorded the outside capitalists. Thus, the exclusion of all interest to banks, bondholders, and stockholders would involve an illogical grouping

of partners, or stockholders, and creditors, the banks and bondholders, as well as a confusion of profit and interest, and the inclusion of interest actually paid, along with the exclusion of interest on the stockholders' capital, would be treating the capitalists, for whom the statement is made, with less consideration than the outside capitalists and would make the costs arrived at less significant for the reason already given in the foregoing pages.

The method of determining the basis of the interest charge and the percentage of interest to be allowed is as little understood by accountants as the theory underlying the problem of interest. It has been shown that capital is the basis of interest and not the valuation of capital goods. True, the original cost of the capital goods is used, but this original cost is in no sense their proper valuation at any time; the original cost is used because it represents the amount of capital poured into the business. Furthermore, it has been explained that no revaluations are allowable but that all profits and interest, due the stockholders but left in the business, are additions to capital. Thus, much of the technic involved in computing the interest charge is generally understood, although the theoretical reasons given by accountants for the use of original cost are never satisfying. About the interest rate to be charged there is even less cogent reasoning. Obviously, the interest rate to be charged should be that prevailing at the time the capital was invested. When the bondholder invests $1,000 at five per cent, he does not expect to receive a higher rate later, even

if the interest rate rises. The entrepreneur who invests his capital does it with the understanding that he has a long-time investment and he should calculate interest just as if he were a bondholder. If he reinvests some of his profits or interest at a later period, the interest allowed on them should be charged at the percentage prevailing for that type of investment when these profits and interest were earned and reinvested, that is, not withdrawn.

The method outlined for determining the interest charge may seem hard to apply but the same may be said of the proper method of charging depreciation. If the accountant will keep an accurate record of interest paid and of a proper interest charge for the entrepreneur's capital when invested, there will be no difficulty except with the reinvested profits and interest. Something concerning the method of treating these additions to capital has already been given in Chapter XI. For the use of firms that have no way of determining what interest rates applied in the past, the accountants, with the help of the banks, should attempt to compile adequate tables for different geographical sections and for different industries.

Some accountants find a certain technical difficulty in charging interest into cost, but this difficulty arises out of the misconception that interest is the business organization's income in the same way that economic profit is. When a stockholder receives a salary, this salary is charged to cost and credited to some real account, usually either Cash or the stockholder's personal account. The same procedure

can be followed in the matter of interest. A real account should be credited and cost should be charged with the interest on the stockholder's investment. The feeling that interest should not be credited to a real account has probably been caused by the belief that interest is income in the sense that profit is income, but this credit is no more illogical in the case of interest than in the case of salary.

APPENDIX II

CASH DISCOUNTS ON SALES, BAD DEBTS, OUTWARD FREIGHT, DONATIONS, AND TAXES ON PROFITS

There are certain disputed items of accounting cost that probably should not be discussed in an economic treatise, but inasmuch as the economic principles announced in the foregoing pages may help to clarify their treatment, they are considered in this appendix.

Discount on Sales

When a corporation sells its product, it desires to receive as prompt payment as possible, and, therefore, often offers a discount of two or three per cent on sales for cash or prompt payment. It is a much mooted question as to whether such cash discounts should be deducted from the Sales or added to Cost. Probably the accountant's first impulse is to treat such discounts as deductions from Sales. If a desk is sold for $100, but with a cash discount of two per cent, the buyer who pays promptly gets the desk for $98. The seller is willing to take a price of $98 from the cash buyer, just as he might make a lower price for any other type of preferred customer. Most accountants, however, do not classify such cash discounts as deductions from Sales but as financial expense for the reason that prompt payment enables them to borrow less capital. The discount, there-

fore, is like an interest payment to the customer who furnishes capital by paying promptly. It may seem that it makes little difference how such an item is treated because the two methods result in the same profit. However, not only as a matter of theory, but also because cost should be defined definitely and consistently, there should be agreement as to the proper items to be included. If a buyer, for example, agrees to pay cost and a certain margin of profit, cost should be defined in unmistakable terms. Furthermore, when an accountant says cost, it should mean something definite and understandable.

The entrepreneur has two types of business transactions, those with customers and those with the other factors of production or other entrepreneurs who help in his producing unit. Thus, he pays wages, rents, interest, and prices for raw materials, and he receives prices for his finished products. It might appear that the discount on sales is not a payment or cost in the sense that it is paid to the factors of production. In so far as it is a payment, it is paid to customers; therefore, it might seem that it should not be considered in connection with cost but merely in connection with sales. There is an obvious answer to this, which the accountant might urge, namely, that the customer as prompt payer is not a customer but capitalist, and he receives his discount as capitalist and not as customer. Whether a customer who pays his bills promptly should be thought of as doing anything so unusual as to be called financing is a question, but there is probably much to be said for it.

The second question to be considered is the fact that, if the discount is treated as a deduction from Sales, the price line of the price-cost curve may be affected. The price line of the diagram on page 143 was shown as a straight line. If some of the buyers took their cash discounts and others did not, different companies might realize different average prices. In that event the price line would not be shown as a straight line, if the discounts were deducted from Sales. However, economic theory makes an unwarranted assumption when the price line is represented as a perfectly straight line. Producers do not always receive the same prices for the same commodity; they may sell in different markets or under different conditions. Therefore, there could be no valid objection on this score to the deduction of discounts from Sales. Finally, if the assumptions of theory apply there is no reason why one seller would not have relatively the same amount of discount to pay as another.

Probably the most important question in connection with this problem is the possibility of including a charge for discount in cost. In constructing a unit cost before the Sales are consummated, there would be no way of knowing definitely what charge to allow for discounts. Some customers might take the discount whereas others would not. Thus, discounts are analogous to taxes on profits, which cannot be determined until Sales are consummated. They are dependent not only upon the size of the Sales, but also upon the promptness of payment after the Sales are consummated. This last consideration, more

than any other, should argue for the exclusion of discounts from cost and their deduction from Sales.[1]

The use of cost as a basis of price is only one of the purposes of cost accounting. The other purposes, set forth in the early chapters of this book and in Appendix I, namely, for measuring profit on different lines after the product is sold, for the valuation of inventories, and for the analysis of itemized costs in order to effect economies represent uses of cost after the sales are consummated. For these purposes, the inclusion of Cash Discounts in cost would not be so objectionable, but since there is as much to be said for their deduction from Sales as for their inclusion in cost and since one of the principal purposes, if not the principal purpose, of cost accounting is the determination of a basis for future price, it seems best to exclude them entirely from accounting cost. In this connection it might be interesting to note that some accountants have argued against the inclusion of interest in cost for the same reason that has been given here, namely, that the interest is not determined until the sale is made. This confuses interest and profit; interest is a charge the moment capital is invested and is not affected by sales.[2]

Bad Debts

Very often in this imperfect world customers obtain goods but fail to pay for them. Whether the amount of such Bad Debts should be deducted from

[1] See the definition of accounting cost, page 82.
[2] See page 182.

Sales, included in cost, or treated as a deduction from realized profit is another one of the disputed problems of accounting, If a manufacturer sells 100 desks at a price of $100, and receives payment for only 99 of them, he has sold 100 desks but has realized only $99 on each desk. It may be maintained, however, that he really sold 99 desks at an average price of $100 and that he practically gave away or lost one desk. If in manufacturing the desks one had been ruined, the production divisor would have been 99 instead of 100 and the cost would have been consequently greater. This may seem to argue for the inclusion of the Bad Debts in cost. In the last analysis, however, the same reasoning applies here that applied in the case of Cash Discounts. Bad Debts cannot be included in cost until after, and in many instances until long after, the sales are consummated. Therefore, it seems desirable to deduct all the definitely known Bad Debts from Gross Sales in arriving at Net Sales, and to deduct the doubtful accounts from profit.

Outward Freight

When a producer sells a commodity, he can sell it f. o. b. factory or delivered. If he sells it f. o. b. factory, the buyer pays all the freight charges between the factory and the destination required by the buyer. If the seller sells it delivered, he pays the freight. If the seller pays the freight, he will probably add it to the price he charges.

In order to simplify the problem, it can be assumed, at first, that those goods sold delivered

have the actual freight paid on each shipment added to the price and that the goods sold f. o.b. factory include no freight. Then, if Outward Freight is deducted from Gross Sales, the Net Sales will give the prices actually paid for the commodity. However, the accountant may contend that the manufacturer is receiving different prices for the different units he is producing, and that these different prices are prices for the commodity and for freight. Thus, the manufacturer in Pittsburgh is selling steel to a buyer in Pittsburgh, steel and the freight to Baltimore to a buyer in Baltimore, steel and the freight to New York to a buyer in New York. Obviously if the accountant is computing a unit cost as the basis of selling price, he would have to have a different cost for the buyers in each city. Furthermore, in computing cost before the sale was arranged, he would be unable to determine the Outward Freight until the destinations of the different units were determined. Thus, it seems desirable to make a general rule of deducting Outward Freight, as well as Cash Discounts and definitely known Bad Debts, from Gross Sales in order to arrive at Net Sales. In that event, the price line [3] would not be affected by the different freights.

Donations

The producer is often called upon to make donations to charities, to the Red Cross, or to similar organizations. He usually considers such donations as a part of his cost. He argues that they are neces-

[3] See page 143.

sary for the establishment of the goodwill of his business.

If Donations are included in cost, the consumers pay them. It may be argued that consumers pay all the elements of price including profit. However, it should be realized that if Donations are included in cost, the consumer is really paying them for the entrepreneur, whose profit is not reduced and whose goodwill is established without any sacrifice. If a donation deserves the name, it should be given by the donor, that is, the entrepreneur, and it should reduce his profit. The same principle applies in the matter of the tax on profit. The Government definitely says that it will take a part of the entrepreneur's profit; if this tax could legally be added to cost, it would be paid by the consumer, not by the entrepreneur. Both taxes on profits and Donations represent divisions of profit and not items of accounting cost. When prices are demoralized, however, the inclusion of these items in cost would not necessarily shift them to the consumer; in such times they would undoubtedly reduce profits or increase losses. However, in normal times or in times of high prices, the accounting treatment of such items would help to determine who actually paid them.

Tax on Profits

There is an interesting question as to whether the accountant should include the tax on profits in cost. Obviously the bulk-line producer would have no such tax in his cost, because he would have none to pay.

Furthermore, the tax could not be included in cost when profit is being determined, because its inclusion would presuppose that profit was already determined; it is a tax based on profit. However, after it is determined, that is, after price is fixed, it might very well be added to the other costs or monetary sacrifices of the entrepreneur. But if the cost is to be used by the entrepreneur merely as a basis for fixing a price, it should not include the profit tax. Furthermore, in determining cost for the purpose of computing the profit tax to be paid, it would be absurd and logically impossible to attempt to include such a tax in cost.

APPENDIX III

QUESTIONS IN ECONOMICS FOR C. P. A. EXAMINATIONS

It has come to be realized that the accountant must have some training in economics as a part of his equipment. In some States questions in economic theory and applied economics are given in the C. P. A. examinations. These questions are usually framed by economists, who have no knowledge of or interest in the kinds of questions the accountant should be expected to answer. Some of the questions asked, moreover, reflect the special interest of the economist who framed them. It would be unreasonable to expect the accountant to acquire complete information in all the fields of applied economics, such as money and banking, railroads, foreign exchange, etc. Yet, it is quite as unreasonable to give any accountant a C. P. A. certificate unless he grasps the fundamental principles of economic theory, on which the philosophy of accounting is based.

The following questions, which have been culled from C. P. A. examinations, are some of the better ones.

The student can find suggestions for answers to the following questions in Chapter III:

Discuss the motives in economic activity. (Wis., Nov., 1919.)

State what you mean by consumption, production, and distribution. (N. D., June, 1914.)

Distinguish production and consumption. (N. D., 1919.)

Define production, illustrating the several ways in which it can be affected.

Define economic goods. How are economic goods different from free goods? (Md., Dec., 1917.)

Explain what is meant by the following: good; free good; capital goods; consumer's goods; production goods. (Wis., Nov., 1919.)

Name and describe the factors of production. Differentiate between fixed and circulating capital.[1] Give example. (Wis., April, 1914.)

Distinguish fixed and circulating capital.[1] (N. D., July, 1919.)

How does land differ from capital as an agency of production?[1] (N. D., June, 1914.)

Describe the process by which capital goods come into existence and are made available for productive use. (Wis., April, 1918.)

Name and describe the factors of production. Classify the following under the respective factors of which they are examples: a newsboy, steam locomotive, coal deposits, pig iron, bookkeeper, State Official, pile-driver, draft horse, stock of shoes, insurance salesman. (Wis., April, 1918.)

Are money-making and production identical? Explain. (Wis., Nov., 1919.)

Define capital. Why is interest paid for capital? (Md., Dec., 1917.)

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[1] Capital is probably used here in the sense of capital goods. See also Chapter XI.

The student can find suggestions for answers to the following questions in Chapter IV:

On what basis would you allocate gross income to rent, wages, interest, and profits? That is, what is each economically entitled to? (Wis., Nov., 1919.)

What fixes the market rate of wages? (N. D., Aug., 1917.)

If in a given country the laborers receive one-third of the annual income of the country, would an increase in the efficiency of the laborers increase the proportion received by the laborers? (Md., Dec., 1917.)

What is pure interest, and what other elements enter into actual rates?[2] (N. D., Aug., 1917.)

What effect does the invention of machinery have on the rate of interest?[2] (Md., Dec., 1917.)

What is interest? Why is it paid? (N. D., June, 1914.)[2]

Discuss rent. (N. D., July, 1919.)

The student can find suggestions for answers to the following questions in Chapter VI:

What do you understand by demand? (N. D., July, 1919.)

What do you understand by the law of diminishing utility? (N. D., July, 1919.)

State the law of diminishing utility and illustrate by a diagram and an explanation of the diagram. (Md., Dec., 1917.)

The student can find suggestions for answers to the following questions in Chapter VII:

Define money. What is the difference between "standard of value" and "medium of exchange"? (Wis., April, 1918.)

[2] See also Chapter XI and Chapter XII.

How does money act as a standard of value and what is the chief requirement of the substance used as such standard? (N. D., Aug., 1917.)

What fixes the value of money? (N. D., Aug., 1917.)

What is money? What is a standard dollar? (N. D., June, 1914.)

It is argued that the United States should not burden future generations with additional Liberty Bond issues, but should adopt the simpler and cheaper expedient of issuing and using paper money in sufficient quantities to pay for the war. Would this be a good or poor policy? Why? (Wis., April, 1918.)

The student can find suggestions for answers to the following questions in Chapter IX:

Explain what is meant by fixed and variable expenses. (Wis., Nov., 1919.)

Show the relation of fixed and variable expenses to unit cost of production. (Wis., Nov., 1919.)

The student can find suggestions for answers to the following questions in Chapter XI:

Explain the relation between production, consumption, and prices, using the present-day industrial situation in illustration. (Wis., Nov., 1919.)[3]

Explain how the price of a commodity is fixed under competitive conditions.[3] (Md., Dec., 1917.)

What are some of the principal factors entering into price determination?[3] (N. D., July, 1919.)

Suppose the price of butter to be 40 cents per pound. Why has the price been fixed at that point, and under what conditions would it probably remain

[3] See also Chapters V, VI, and VII.

at that point (assume normal conditions, and not war times)? (Wis., April, 1918.)[4]

Define profits. Is the payment on a bond a profit? (N. D., June, 1914.)

The student can find suggestions for answers to the following questions in Chapter XIII:

What is the law of diminishing returns as applied to extractive industries? (N. D., Aug., 1917.)

What do you understand by monopoly? (N. D., July, 1919.)

Show how market prices are established in a free competitive market. Contrast this with the fixing of monopoly price. (Wis., April, 1914.)

Indicate what effect the enforcement of the Sherman Anti-Trust law has had. (Wis., April, 1914.)

State the nature of the Trust Problem before Congress and the country at the present time. (Wis., April, 1914.)

The student can find suggestions for an answer to the following question in Chapter XIV:

Summarize strength and weakness of income tax. (N. D., July, 1919.)

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[4] See also Chapters V, VI, and VII.

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